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BUSINESS TECHNOLOGY LEADERSHIP

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Speed The Close

Closing your books
smarter and faster
can be the difference
between good and great

BY GALEN GRUMAN Page 36



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It's All About the Money

IT professionals like to talk about leveraging assets and adding value, but the business of business is **making money**. You may have your **architecture** down cold, but how well do you know your **P&L**? If you want to brush up on your money skills, visit our special **Money Issue**, where you'll find **accounting and financial resources** and learn how to talk to your **CFO**. Remember: As CFOs love to say, if you take care of the nickels, the dollars will take care of themselves. » www.cio.com/money

[LEADERSHIP]

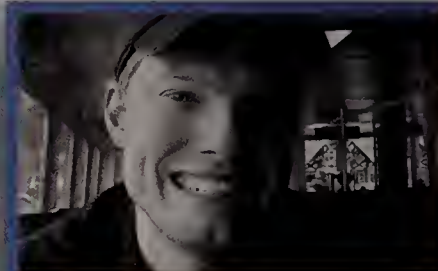
LIGHTEN UP!

Yes, work is hard and work is earnest, but if your employees are not having fun at their jobs, chances are they're not doing good work. How can you introduce a bit of levity into the workplace? For leaders and managers it starts with not taking yourself so seriously. Or so leadership columnist John Baldoni says in "Permission to Laugh." » www.cio.com/leadership

[HALL OF FAME I.T.]

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[COLLABORATION]

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at CERN, Geneva, Switzerland.*



Masters of Space and Time

CIOs need to think multidimensionally when designing IT systems and architectures for their organizations

The professional lives of CIOs have never been simple, and they're not getting any simpler. In this issue it becomes clear that for IT to fulfill its mission, CIOs must master such matters as size and complexity, speed, capacity, and even space and time.

Martha Heller, author of our Career Strategist column (Page 28), tackles the issue of size and complexity, offering advice to CIOs looking to make the move from mid-size companies to larger, more complicated organizations. Her advice is right on: Show that your skills can scale; figure out how influence and communication work in a more layered and extended environment; think about how you would operate differently in a more formal management structure. Best of all, her counsel is backed up by the real-world experience of three CIOs who have successfully made the transition.

Our cover story, "Close Fast, Close Smart," by Galen Gruman, beginning on Page 36, is an in-depth look at the strategic benefits of redesigning your organization's financial processes in order to close the books faster. Improvements of a just few days can have a ripple effect throughout the business. They can help business executives identify problems and opportunities much earlier; clarify the relationship of all financial information so managers and executives can do analysis outside the box; and, by providing accurate filings more quickly than competitors, increase investor confidence.

In "Your Hire Power," beginning on Page 46, Senior Writer Stephanie Overby addresses one of the main challenges of an improving IT climate: As demand increases, how do you increase capacity proportionally? What are the best ways to find and hold on to scarce IT talent? Overby explains why you need a recruiting framework, offers tips for calculating compensation and answers the seven most critical questions concerning finding and keeping the people you need.

And as the Iraq war enters its fifth year, we talk to Lt. General Robert Dail, commander of the Defense Logistics Agency, about how IT can help overcome the challenges of moving massive amounts of materiel across vast and daunting geographies (see Page 54). Dail assumed leadership of the DLA a little over seven months ago, not long after the release of reports that were highly critical of the agency's performance during the early days of the Iraq and Afghanistan wars. The DLA also had been criticized by the Government Accountability Office for lax information security practices. Dail believes that good information and the right systems, managed well, are the key to fulfilling the Agency's critical mission.

Ultimately, the CIO's critical mission is to make sure the organization he or she serves is as flexible, responsive, secure and intelligent as it can be. And that requires operating in many different dimensions.

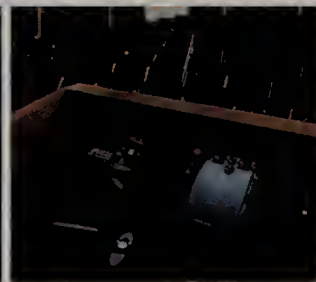
Ultimately, the CIO's mission is to make sure the organization he or she serves is as flexible, responsive, secure and intelligent as it can be. And that requires operating in many different dimensions.

A handwritten signature in black ink that reads "Abbie Lundberg". The signature is fluid and cursive, with a large, stylized 'A' and 'L'.

Abbie Lundberg, Editor in Chief
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IT Takes Two

Business needs to grow while controlling costs. A neat leadership trick—if you can pull it off.



I recently read an interview with GE CEO Jeffrey Immelt, and it was fascinating to get his perspective on what types of leadership skills are essential to succeed in today's tumultuous business climate. Immelt says that today's leaders need to be "ambidextrous" in order to survive and thrive. What he means is that they must be able to deliver growth with one hand while controlling costs with the other—all the while sustaining a high level of excellence at both.

Sounds easy, right?

As a message to the CIO community, Immelt's analysis could not be more timely. The CIO's long-established mission of aligning business and technology goals is just not enough any more. Business is looking for transformation. And for that to occur, it needs the ambidextrous leadership Immelt describes. Without the ability to grow within a financially responsible matrix, business success becomes an ever-receding goal. If CIOs can't meet this challenge, if they don't, in fact, take the lead (and as I said, it won't be easy), then, as I predicted (www.cio.com/archive/011507/ceo.html), 2007 could be a year where CIO turnover increases for the first time in about four years.

So, how can CIOs learn to walk this tightrope?

Jim Collins, author of *Built to Last* and *Good to Great*, has championed the need for companies to learn from others in order to achieve greatness. Now he's studying how greatness can be lost (why some fall from great to good) and how companies can sustain greatness even in the face of disruption. Leadership sits at the core of his findings, and he will be sharing his perspectives at the upcoming CIO Leadership Conference, April 29 to May 1. You can find more information about the conference at www.cio.com/leader_2007.

Along with Collins, we'll be joined by CIOs working to meet the new demands of leadership, such as P&G's Robert Scott, SanDisk's Cecelia Claudio, Lockheed Martin's Joseph Cleveland, H&R Block's Marc West, Chevron's Louis Ehrlich and many more. I sincerely hope that you can attend so we can learn from one another and learn how to use both hands to become ambidextrous leaders.

See you there.

Michael Friedenber, President and CEO
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trendlines

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NEW * HOT * UNEXPECTED

Banks Strike Back

DATA SECURITY What makes the TJX data breach different from the many that came before it? This marks one of the first times banks or consumers have linked a specific incidence of credit card fraud to a security breach at a specific company, says Jim Lewis, a security expert at the Center for Strategic and International Studies.

Plus, bank executives are fed up and they aren't going to take it anymore.

That seemed to be the message delivered by the financial community in the wake of the security breach announced by

TJX in January. TJX, the Framingham, Mass., parent company of discount stores including TJ Maxx and Marshalls, revealed that hackers had stolen an undisclosed number of customer credit card numbers (estimates are in the millions). The reaction to the break-in was swift: The Massachusetts Bankers Association said some of its member banks had been able to trace recent fraudulent purchases on credit cards to the TJX breach.

"We believe the financial responsibility for covering losses because of fraud is on the company

Continued on Page 14



Data Center in a Box

EMERGING TECH The data center at Bryant University developed, as many do, on a piecemeal basis. A server here, a server there, until the Smithfield, R.I., school had 78 servers and other equipment scattered across its 420-acre campus. Bryant is now undertaking a \$900,000 data center project using a modular design—an idea it thinks merits top grades.

A modular data center features a preconfigured collection of servers, storage devices, and power and cooling equipment that can be quickly set up and easily maintained at a lower cost than a custom-made data center.

If this sounds like a far-out idea, consider that IBM and Hewlett-Packard each have modular data center offerings, and by June, Sun Microsystems is scheduled to make available Project Blackbox—a data center assembled inside a shipping container that can be delivered to a customer

on a truck, parked next to the customer's building, plugged in and turned on.

For its part, Bryant brought in IBM and American Power Conversion, which jointly build preconfigured centers, of approximately 500 to 1,000 square feet.

HP's "ship to site" program lets a customer make one call to order a modular data center. When a bank whose branches were taken out of service by Hurricane Katrina wanted a temporary branch, HP shipped a modular center "with a drive-through window

and everything," says Belinda Wilson, executive director of business continuity and availability solutions.

One hitch: While modular data centers may help customers add capacity quickly, says Andreas Antonopoulos, a senior vice president at Nemertes Research, they don't address the problem of access to electricity, particularly in urban areas. In such locales, the local power company may not be able to deliver the necessary juice, Antonopoulos says.

—Robert Mullins



CRUNCH TIME

Winning With Analytics

BOOKS Tom Davenport may be a business strategy guru, but he's also a fierce Boston Red Sox fan. In his new book, *Competing on Analytics: The New Science of Winning*, written with Jeanne Harris, he notes that the numbers prove pitcher Pedro Martinez should have been pulled earlier from the ill-fated game 7 of the 2003 American League Championship Series. The current Red Sox organization's ability to crunch numbers—and create new recruiting metrics—fueled its 2004 World Series victory, he says. Could your business do the same—use analytics to outsmart competitors, strengthen staff and optimize key business processes? You not only can, but you must, Davenport argues.

Better business processes are one of the last ways to differentiate yourself from close competitors in today's global economy, he states. Firms that are successful analytical competitors select one or two distinct capabilities—attributes where they outshine rivals—and then apply extensive data and systematic analysis to bolster those capabilities, Davenport says. Companies like Anheuser-Busch (which uses a mobile workforce to feed data into a closely held analytics system called BudNet to optimize beer sales across geographies) are proving the approach's value, he says.

Davenport shares satisfying examples of how companies like Capital One, Harrah's Entertainment, E.&J. Gallo Winery and American Express use analytics to create advantage. The second half of the book, a how-to guide, details getting started and executing. A concise discussion of the architecture of business intelligence explains key technology issues.

As Davenport notes, CIOs will shape the analytical future. Without a consistent, enterprisewide approach to data management and a flexible BI architecture, a company can't become an analytics champ.

—Laurianne McLaughlin

Competing on Analytics

Thomas Davenport &
Jeanne Harris
Harvard Business School
Press, 2007, \$29.95

Banks Strike

Continued from Page 13

where the breach occurred," says association spokesman Bruce Spitzer. "This is something we are pursuing."

As are others. So far, at least two class-action lawsuits have been filed against TJX (one by banks in Alabama and Ohio, and another by an individual in West Virginia). The Massachusetts Attorney General's office is investigating TJX's security practices. The suits and investigations have altered the security breach landscape. "You will see banks start to attempt to hold retailers and other merchants liable" for losses on credit cards, says Behnam Dayanim, a privacy attorney with Paul, Hastings, Janofsky & Walker in Washington, D.C.

As CIO, how do you protect your company from a similar mess? The first thing CIOs should do is discuss with business unit leaders whether personal information (such as addresses, driver's license data and Social Security numbers) needs to be stored at all. If there's no compelling business reason to keep it, then the company should discard it after processing any transaction, be it in a brick-and-mortar store or online. But if the storage of the information is viewed as key to increasing sales then the firm must secure the data.

Encryption is one answer. The California security breach notification law (the standard for such laws, which requires businesses to notify customers when personal data has been exposed) permits companies to forgo notification if the personal data was encrypted. But use strong encryption, because lawyers can argue that weak encryption is no protection at all, Dayanim warns.

Finally, if you can hire a third party to conduct periodic security assessments and vulnerability testing, security experts say that will go a long way toward convincing regulators, as well as dissuading lawyers from filing charges.

—Allan Holmes

CEOs as Public Leaders

What role should U.S. business executives play in shaping debate and encouraging change on societal issues like education, health care and foreign policy?

CEOs and board members want to see more of their peers take on leadership roles.

44% say most executives should take on a leadership role

6% say most executives should play **no** role

14% say they personally take a leadership role

SOURCE: McKinsey Quarterly



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Skype Connects With the Enterprise

VOIP Skype says business users grab 30 percent of its downloads, but is the enterprise ready for wider use?

There are many good reasons why Skype is slowly making its way into the corporate world: It's free, and you can forget about country codes, telephone numbers and long-distance bills. With a mouse click, you're talking, or even videoconferencing, with any of the 170 million Skype users worldwide. But there are also good reasons why corporate IT views Skype skeptically. For starters, it can be a bandwidth hog.

Another problem: Most security products don't yet monitor Skype traffic, meaning that Skype's file-transfer capability may make an end-run around your company's firewall. Now Skype is vying to address these concerns.

Consider the case at Holly Corp.: The petroleum refiner blocked Skype outright when it first noticed employees sneaking the software onto the corporate network two years ago. "We started noticing that bandwidth was not available," says Paul Sheth, network and systems lead

with Holly, in Dallas. "And before it started causing a problem that people would notice, we blocked it."

Up until recently, pulling the plug was the only way corporate IT could control the software, but lately eBay, Skype's parent company, has been jazzing up Skype so that people like Sheth will take a second look.

In December, eBay released a new version of Skype that gave outside programmers some level of control over the software, and those changes are already making Skype easier to manage. For example,

FaceTime Communications now sells software that can be used to centrally control which Skype features are permitted on the network.

With FaceTime, Holly can turn off videoconferencing at regional offices with low bandwidth, or block file-sharing with Skype.

Still, security remains an issue: Sheth says he still doesn't quite have the level of control over Skype that he wants. "It's making a stride in the right direction," he says. "As far as mass acceptance, it will still be another year or two off."

—Robert McMillan

How CIOs Can *Fight* Smart

CAREER Conflict is often the elephant in the room that executives strive to ignore. But no matter how tempting this may be, avoiding conflict gets you nowhere. CIOs must learn the art of productive fighting, says Lynne Eisaguirre, author of *The Power of a Good Fight* and president of human resources consultancy Workplaces That Work. Eisaguirre has a few tips for "eating the elephant bite by bite."

> Accept conflict as normal. People too often associate conflict with dysfunction, says Eisaguirre, but heated discussions are necessary for business success. "The main reason why many companies are not more productive is because they don't know how to manage conflict effectively," says Eisaguirre. Great innovation requires working through tough conversations and making collaborative decisions with your CEO, CFO and IT staff.

> Be proactive. Unresolved conflicts can quickly spiral out of control and require the support of a third party. Avoid this destructive path by planning conflict resolution strategies before a blowout takes place. If your company has hired a new CEO, brainstorm ahead of time how you will handle your inevitable first fight, advises Eisaguirre.

> Harness your conflict management skills. Effectively managing conflict takes practice, because it's counterintuitive to our gut responses. When we are in conflict, our instinct is to go into fight or flight mode, says Eisaguirre, but neither approach works well in the workplace. Participate in a conflict training course, and encourage your IT managers to do the same, she says.

> Don't fight via e-mail. E-mail is useful for many things, but resolving conflict is not one of them. "People

say things in e-mail that they would never say face-to-face. It is important to see people, or at least hear the tone in someone's voice" during a conflict, says Eisaguirre. So the next time you have the urge to unload on your CFO in writing, step away from the computer.

—Lauren Capotosto



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Encryption Prescription

Plan strategically to protect data and avoid management hassles

SECURITY Every week, another instance of a misplaced notebook or hard drive with private customer data seems to surface. Why weren't these drives encrypted? Some IT departments view encryption as a possible administration hassle—but that's changing. Enterprises are starting to build comprehensive encryption strategies across multiple applications, using a single platform to ease management, according to new data from the Ponemon Institute.

Among 768 U.S. IT and business managers surveyed by Ponemon, 66 percent say that they use some kind of encryption to mitigate data breaches. Use of encryption has increased by 31 percent in the past year, and more e-mail applications, file servers, mobile devices and laptops are using it, says Larry Ponemon, chairman and founder of the Ponemon Institute.

Although only 16 percent of respondents say they have an encryption strategy that's enforced across the enterprise, 68 percent feel that having encryption policy enforcement across all applications is important.

CIOs need to help business leaders understand why this is a priority: "CIOs are the stewards of information, and encryption is about securing the information that puts your organization most at risk," Ponemon says.

Half of the companies today use encryption on an as-needed basis, meaning it's not mandated. "Some organizations allow users to make the decision," Ponemon says.

Deploying encryption tools piecemeal can strain IT departments with repetitive tasks and increased costs, the report says.

IT groups see the trouble coming. Almost 70 percent of respondents feel it's important to have an automated encryption enforcement policy. For example, an automated e-mail policy would kick in when a user sends an e-mail that's not encrypted, but which should be, says Ponemon. Violations can be tracked as well.

One way to simplify: An encryption platform solution lets IT manage multiple encryption applications from one console, eliminating redundant administrative tasks and reducing operational costs. Eighty-nine percent of respondents have either started building a platform approach or are interested in one.

Best Practices

Be proactive. Don't wait until your company data is compromised before you look at encryption options. "CIOs need to understand what information creates the greatest risk," Larry Ponemon says. "This means partnering with business units to identify where encryption is appropriate."

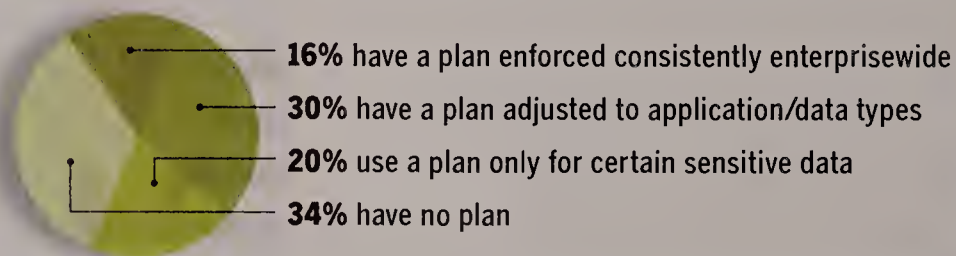
Be comprehensive. It's hard to argue that you're thinking strategically if you're encrypting only individual applications and missing a platform approach (which lets you manage from one console and avoid redundant administrative chores).

Use an automated encryption policy. "You can have a great policy, but unless users know you're enforcing it, it won't be effective," says Ponemon. "That's one of the problems with encryption historically: It's been mandated on paper but the compliance was less than 50 percent because no one was watching. Now you can watch."

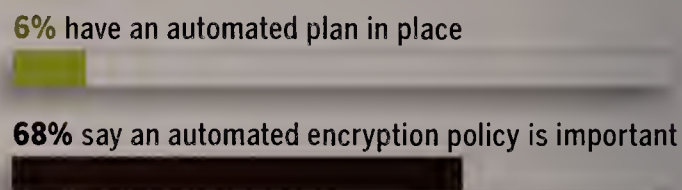
TRENDLINES

Your Encryption Strategy

66% of companies have some type of encryption plan:



But not enough plans are automated:



SOURCE: Ponemon Institute

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_INFRASTRUCTURE LOG

_DAY 53: We have so much information. Data. E-mails. Web content. Video. But it's scattered across the business. We can't find anything we need.

_Gil says he needs a hand. Alas, I'm afraid of heights.

_Day 54: Here's something more grounded: IBM Information Management middleware. Now we can access any kind of info and accurately deliver it to the people or processes that need it. It gives us information we can trust and insights we can act on to deliver real business value.

_Once again, this accursed acrophobia makes me the object of my colleagues' ridicule.

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FROM INCEPTION TO IMPLEMENTATION—I.T. THAT MATTERS

Edited by
Laurianne McLaughlin
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A slew of new enterprise search options can be found at every price, including free. What do you really need to discover true value?

Treasure Hunt

BY GALEN GRUMAN

SEARCH | Who wouldn't like to outgoogle Google? Given the sophistication of today's consumer search tools, many CIOs have users (and maybe even the CEO) banging on the door asking why valuable corporate data is still locked away in various places and unsearchable. Trying to capitalize on this need, a bevy of vendors are introducing or revamping enterprise search offerings. Most recently, IBM and Yahoo teamed up to create free, downloadable enterprise search software—the OmniFind Yahoo Edition—to compete with Google's Mini device for enterprise departments and small to midsize businesses. (Mini search software comes in a preconfigured appliance, starting at \$1,995.)

All the flavors of search can be overwhelming. But for enterprises hoping to improve worker efficiency and business processes, it's vital to understand what the current crop of low-cost, middle and high-end search options can and can't do.

The free OmniFind Yahoo Edition (designed by IBM to get a foothold in the enterprise search space, with the hope of selling product upgrades and services later) certainly has its limits. But Eric Brierly, CTO at Decision Critical, a company that provides online access to medical training and continuing-education programs for hospitals, nurses and doctors, was able to use it for more than just adding public search capabilities to the company's website (which is how many entry-level search tools are used). Still, it took some tweaking.

Decision Critical hosts training modules for its customers; each customer has access rights to different modules based on what the customer has licensed or provided. That requires Decision Critical to create and maintain separate Web-based course catalogs for each customer. Brierly has long wanted to simplify the maintenance of course pages and their HTML links to course details, and give clients better keyword searching options. When OmniFind Yahoo came along as a free tool, he decided to see if it might solve his problems.

One key limitation of tools such as OmniFind Yahoo is that they index only

Managers
spend up to
two hours a day
searching for
information,
and more than
half of it is of no
value to them.

HTML pages and common document formats such as Microsoft Word, Excel and PowerPoint documents, and Adobe PDF files. They can't catalog the contents of databases, ERP systems or other corporate information resources. Brierly extended the free version's capabilities by creating hyperlinks from the HTML course "start" pages to SQL queries that returned the course details as HTML snippets. Thus, Decision Critical tricked OmniFind Yahoo into indexing its database content. One result: "There are no more broken links, since each link is based on what the search engine actually finds," Brierly says.

But this approach would not work for other corporate information stores, Brierly acknowledges. That's just one reason why many enterprises end up using a higher-end tool for mission-critical search

TOOLBOX

Inside the Search Tools

A wide range of enterprise search tools now await your consideration. Most fall into one of four classes, notes Forrester Research analyst Matt Brown.

Entry-level: Usually starting at less than \$20,000, these systems typically have limited or no security, can index HTML files and file systems with common business documents, and have vendor-imposed limits on capacity and indexing speed. They also typically do not support high availability, federation across multiple indexes or features like clustering. Examples include Google Mini, IBM OmniFind Yahoo Edition (free), Microsoft SharePoint 2007 for Search, the open-source Lucene and some Isys Search tools.

Midlevel: These systems typically start between \$20,000 and \$80,000 for single server configurations, and offer greater capacity, high-availability configurations, security, clustering, extensive language support, deeper connectors into enterprise applications and federation. Examples include Google Search Appliance and tools from Coveo, IBM, InQuira, Isys Search, Microsoft, Oracle, Recommind, Vivisimo and ZyLab. SAP plans to offer its own tool this year. "For basic full-text search, there's not terrible differentiation among them—but at this tier you start to see vendors excel in particular areas, like customer self-help applications in InQuira's case, and ease of setup and administration in Vivisimo's case," Brown notes.

High-end: These systems typically start at \$80,000, averaging several hundred thousand dollars and extending into millions of dollars for very large-scale systems. But they provide massive scalability, structured data search and data cleansing tools, "fuzzy" search to identify related content and handle ambiguous terms within the search context, taxonomy management, data visualization tools and integration with many back-end systems such as database, ERP and CRM systems. Most of the companies offering such tools have been around for many years, including Autonomy, Convera, Endeca Technologies and Fast Search & Transfer. IBM has also recently entered this market.

Special-purpose: These systems are not distinguished by price or scale but by domain specificity. For example, Nexidia can search audio files, say, for the use of competitors' names in customer service calls, to see if a competitor is gaining traction among customers. Fios has crafted a search engine for legal discovery.

—G.G.

needs, says Matt Brown, a principal analyst at Forrester Research.

Bad Search Costs You

For several reasons, CIOs should find search investments easier to justify than they would have a couple of years ago. Despite today's sophisticated IT efforts, many enterprise managers say simply getting to the right information can be difficult. "Enterprises see Google [search on the Web] and say, 'I want some of that.'

The search box is now a dominant method of getting access to data outside the enterprise," says Whit Andrews, a research vice president at Gartner.

An Accenture survey released in January 2007 reveals that U.S. and U.K. managers spend up to two hours each day searching for information, and more than half the information they obtain has no value to them. In addition, 45 percent of respondents say it's a big challenge to gather information about what other

A large iceberg floats in a dark, choppy sea. Only the tip of the iceberg is visible above the water, while the vast majority of its mass is submerged beneath the surface. This visual metaphor represents the 'hidden 80%' of information mentioned in the text.

Understanding the hidden 80%

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parts of the company are doing. Only 31 percent said that competitor information is hard to get.

Another motivator: Compliance requirements are making business and IT executives seek tools to find information quickly for regulatory filings, government investigations or discovery in legal cases, says Forrester's Brown. That's resulted in special-purpose search tools for, say, transaction log files and voice-mail analysis.

But enterprises should be careful not to adopt search in a piecemeal way, Brown advises. "The industry competition has made it difficult for buyers to have a cohesive strategy. For example, Google's offering is designed to be provisioned by a layperson, so companies end up with a lot of Google appliances churning away at indexing," he says. (Google's newest version of the Mini, 2.2, can index up to 50,000 documents in its \$1,995 entry-level version, or up to 300,000 documents in its top-of-the-line \$8,995 version. IBM OmniFind Yahoo Edition can index up to 500,000 documents.)

Besides wasting network resources, naive deployment of entry-level search tools can both expose private informa-

Enterprises should be careful not to adopt search in a piecemeal

tion and hide available documents, says Gartner's Andrews. That's because such search engines will scan all servers and documents you point them to, and a server may have data that had been secured by obscurity—no one knew it was there, so it was safe—that is now available in the search engine. And these low-cost engines rarely offer accounts-based access that could restrict access to specific documents based on who's doing the search, he says.

Conversely, a naive setup could miss some servers with documents that you want to be accessible.

Craft a Cohesive Strategy

A cohesive search strategy does not mean that enterprises need to have a single search platform or a single content index. "It's OK to have several implementations for different purposes and business units," Brown says—though the enterprise should map out distinct needs, to ensure that information that should be widely accessible isn't mistakenly compartmentalized.

For example, it makes sense to have an independent search engine for a company's public-facing website, to ensure that internal data is not included, and it can make sense to have specialty search engines for log analysis. But it typically doesn't make sense for sales and customer service to have separate search platforms, since that lets customer information fall through the gaps of the two systems.

That realization led Harris, a communications equipment manufacturing company, to implement several search technologies, each handling distinct tasks, says Janice Lindsay, director of supply chain management. For example, Harris uses a Google search engine to give employees access to documents and intranet HTML pages, so employees can do quick searches on specific information. But when the company decided to use search to help ensure that product engineers and manufacturing staff could find which parts had the best prices and highest quality ratings and which came from preferred suppliers, it developed a search platform using Endeca's high-end search technology.

That's because the engineering search needs to direct engineers and others to the best or preferred answers to questions such as "What components meet these engineering requirements?" The results returned are filtered and ranked based on as many as 200 criteria, Lindsay says. The search engine taps into ERP, manufactur-

Companies squander up to 10% of overall salary costs to wasted effort, because employees can't find information.

SOURCE: Butler Group

ing, product design and other systems, as well as into some supplier systems and industry databases to have the context needed for the search engine's rules to make the recommendations.

The need to integrate with other enterprise systems is a sure pointer toward midrange and high-end search offerings, analysts Brown and Andrews say.

Centralize and Conquer

Many organizations have multiple search technologies in place, but they're not coordinated. At best, this wastes network and IT resources. At worst, it results in a fractured view of information across the enterprise, compromising product and service quality.

With engineers spread throughout the world, engineering consultancy Arup was concerned that a team working in one office might not know about design approaches being used in other offices, creating uneven quality across locales. So seven years ago, the company brought in a basic search engine. "We immediately drowned with information overload, and people questioned the search results' valid-

CIO2CIO 2 PERSPECTIVES

Today's IT Leaders on Market Trends

SECURITY

MAXIMIZING INVESTMENTS FOR OPTIMAL RESULTS

Over the last decade, CIOs and other executives have witnessed the transformation of IT security from an afterthought into a mainstream issue that ripples throughout the enterprise and beyond. In today's networked world, businesses are far more vulnerable to breaches in security, particularly as malicious attacks are increasingly launched with an aim toward profiting from hijacked personal data.

CIOs and IT decision makers are very conscious of the importance of security planning as a driver of business success, and must confront a litany of questions: *"How vulnerable is this system? Does it provide absolute protection for our critical business and customer data? Are my technology vendors working to making my environment more secure? How much do I have to invest in my business to increase and improve overall security?"*

A recent IDG Research survey validates the fact that security is now a primary business priority that affects IT budgets. Today, most CIOs peg their security costs at between 10 percent and 20 percent of their IT budgets—and the numbers escalate if compliance issues enter the picture. The study involved in-depth discussions about security with 10 CIOs at midsize and large companies. It provides tangible examples of how IT executives regard platform security and identifies their highest-priority security concerns. The study found that:

- CIOs consider platform manageability and maturity two key factors that influence IT security.
- Data safety and protection are enormous security concerns.
- In addition to investing in secure software platforms, CIOs realize the importance of their own commitment to consistent security processes and its role in achieving positive results over time.

Today, many CIOs use data from trusted sources, including the Mitre vulnerability database (cve.mitre.org) and Secunia (secunia.com), which provide a real-world view of how various platforms compare from a security vulnerability perspective.

Figure 1 (below) shows the cumulative security vulnerabilities tracked in the Secunia database for three popular server operating systems: Microsoft® Windows Server™ 2003, Red Hat Enterprise Linux 3, and Red Hat Enterprise Linux 4. The data shows that the cumulative number of security vulnerabilities announced over the first 650 days of availability for the three products was approximately five times higher for Red Hat Enterprise Linux 3 and 4 than for Windows Server 2003.

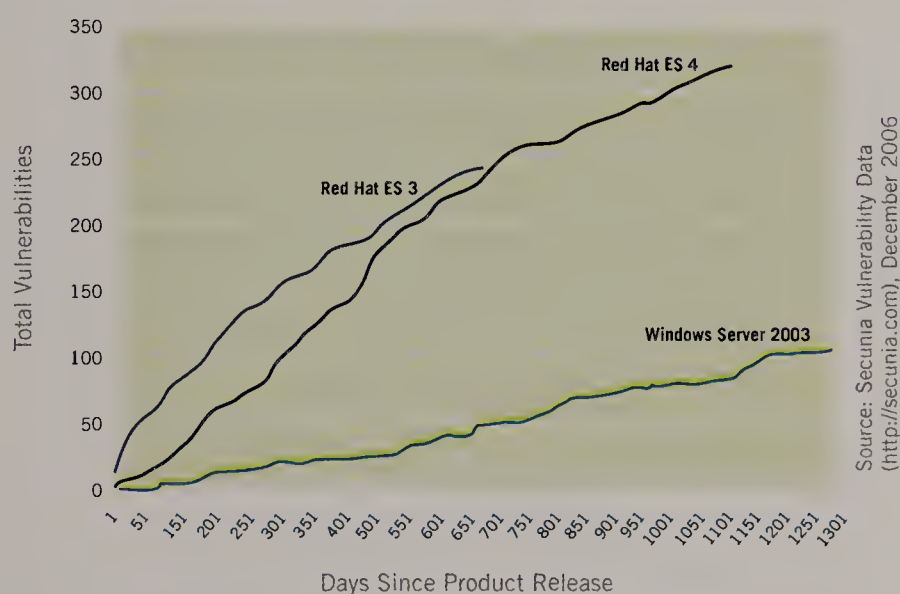


Figure 1. Total Vulnerabilities for Windows Server 2003, Red Hat ES 3 and Red Hat ES 4.

CIOs think broadly about the security of their firm's IT infrastructure and use similar data to make informed decisions. They also consider this data alongside other platform attributes, such as vendor support, manageability and scalability. As products encompass a greater number of features and the complexity of products continues to grow, ease-of-use requirements are magnified.

Examining Priorities

Although definitions vary, most CIOs cite the level of operating system (OS) vulnerability and a vendor's ability to include significant protection in applications and solutions as critical factors in making decisions about products. While the quality of the software solution and its manageability are important aspects of security, CIOs indicate that they are wary of unproven and complex security features.

Data protection is clearly the top priority for CIOs. This applies to both external and internal protection, as some CIOs cite network and desktop access control as an important method of protection from internal threats.

John Peterson, CIO at Longmont United Hospital in Longmont, Colo., explains: "We believe internal processes—and people—pose a greater threat than vulnerabilities to the operating systems. Issues such as what we do internally within our organization, how we grant access to applications, how we make sure they have the proper level of access within that application. If they change jobs and their roles change, how do we then make sure they have access proper to their role?"

He and other CEOs cite the importance of data protection in context with regulatory and compliance issues.

While these security concerns appear to be overarching, with the right combination of tools and proactive management businesses can minimize the risk of security breaches. Customers that employ a Microsoft Windows® environment have an array of management tools at their disposal to efficiently manage the security of their IT infrastructure. For example, Active Directory® provides a central repository of information for all network users and infrastructure—including information that's used for identity management. It complements other tools such as group policy, certificate management and public key infrastructure (PKI).

Putting Partnerships to Work

It's no secret that CIOs prefer widely available and proven technology. And the adoption of an operating system is no exception. "From a security perspective, I tend to steer towards standards, because I know that they are well tested and well vetted by companies larger than ourselves," says Dave Stritzinger, CIO at wireless provider Brightstar Corp. in Miami.

CIOs rely on vendors to keep current with security updates and patches, and they insist on an operating system that can respond to an attempted security breach and prevent damage. As Scott Cousins, CIO at NCH Marketing Services in Deerfield, Ill., puts it: "If somebody does get in, what is the most damage they can do? Can they prevent us from conducting our business? Can they actually get some kind of sensitive data?"

Among other vendors, Microsoft has been working on consistently improving security standards with better quality and manageability in day-to-day operations. Since initial pushes in security in 2002, it has established the Trustworthy Computing Security Development Lifecycle (SDL), a process applied to all Microsoft products for enhanced application security. The approach focuses on deploying products that require fewer patches and provide a higher level of reliability. For IT departments, this translates into lower maintenance costs, increased availability and decreased security risk.

Finally, many CIOs are now turning to outsourcing and managed security services providers (MSSP) to ratchet up protection and embrace best practice policies. As Stritzinger explains: "[Security] is not our core competency. This is one area that we can't move fast enough or [effectively] enough on a cost basis." Although outsourcing may reduce costs, most organizations view it as a way to focus on core competencies and reduce administrative overhead. It can also minimize the need to upgrade systems internally while allowing IT staff to handle more strategic matters.

Conclusion

In the final analysis, it's clear that CIOs are looking for stability, reliability and flexibility in dealing with security issues. While they seek powerful solutions, they're focused heavily on how operating systems and security products integrate into the overall environment and how an IT environment affects total cost of ownership. CIOs recognize that their own investment in security complements vendor efforts to measure up to today's complex and rapidly evolving business environment. ■

About CIO2CIO

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Go to www.cio.com/whitepapers/itsecurity now to obtain a free download of "IT Security Measures: How CIOs Use Strategies, Metrics and Partnerships for Success". Based on a major research survey by IDG Research Services featuring in-depth discussions with CIOs at midsize and enterprise-class organizations, this just-released white paper aims to help CIOs analyze their IT infrastructure so that it runs more effectively and efficiently, and draws on peer insights to create highly available and manageable systems.

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— Blaine Lee,
The Power Principle

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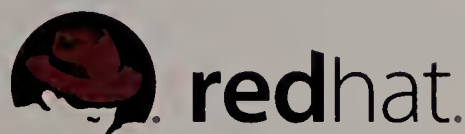
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ity," says Tony Sheehan, group knowledge manager.

Arup tried again, this time using the high-end Autonomy search platform. The new system can tap into the company's databases, financial and human resources systems, and free-form content, either directly or via add-on software. This unified search platform made critical business sense, says Sheehan. The result: Engineers now share the same knowledge no matter where they are based, providing a consistent global level of quality, he says.

National Instruments faced a similar problem. "Our search tools grew over

fragmentation, says CIO Jo Haraf. So the thousand-member firm took its time to find a tool that met its needs, rather than deploy interim technologies, she says. The firm ultimately selected midrange solution Recommind because it could do what Haraf calls "gray-area search"—that is, it has the ability to pull in results suggested by, but not explicitly within, the search query—which for a law firm provides a real edge in finding unexpectedly related cases.

Notably, Arup, Harris and National Instruments all realized that they needed to impose their own context and organiza-

Arup imposed its own categories on data to ensure that results would be grouped in the mental baskets used in the company.

time as the company was learning what search could do," says Jeff Watts, the instrumentation maker's former search and communities manager. "With multiple systems, there's no source of complete information, plus you end up with specialized employees whose knowledge is lost as they leave the company or rotate to other departments," he says. When the company decided to standardize its Web presence across the globe—providing a single platform that could support multiple languages, local product catalogs and online customer self-service—it also took the opportunity to standardize its internal search platform using a high-end Fast Search & Transfer system.

Law firm Morrison & Foerster knew from the beginning that it wanted a centralized search platform to avoid just such

tional structure to search results to better tune them to their business needs—even though the midrange and high-end systems can infer context as part of their indexing. For example, National Instruments imposed structure and context on its information to help searches across multiple systems more easily find similar information. And Arup imposed its own categories on data—such as projects and people—to ensure that search results would be grouped in the mental baskets used in the company. Watts and Sheehan call the effort difficult but worthwhile.

Take Search Further

What would these search users like to do next with search for their enterprises? Sheehan is considering implementing search actively, not waiting for users to ask questions. The idea: The search engine pulls relevant information into a window as the user types—for instance, providing links to other cantilevered bridge designs if a user is writing a proposal for that kind of structure. "For me, this is the future of search," he says.

Where Search and BI Blend

High-end search platforms such as those from Endeca Technologies and Fast Search & Transfer are beginning to blur the lines with business intelligence (BI) systems. Some bring in analytics capabilities and let you save searches, essentially creating canned reporting capabilities from what started as free-form searches.

What does this kind of capability look like in action? Communications equipment maker Harris uses Endeca's search platform to bring "BI 2.0" capabilities to its supply chain management system, says Janice Lindsay, director of supply chain management.

That means using analytics and business rules so that search steers decisions—such as recommending preferred suppliers, or advising engineers that a part is near the end of its lifecycle.

These analytics also help engineers predict costs versus budget as they investigate parts and manufacturing approaches, and help monitor compliance to goals such as choosing parts with lower defect rates.

—G.G.

Morrison & Foerster's Haraf looked at such active search capabilities a few years ago, but rejected the then-current offerings because they interrupted users' work with alerts. "Users' initial reaction was, 'That would drive me crazy; please make it go away,'" she recalls. But a noninvasive approach that suggested relevant cases or subject experts as an attorney was writing a brief or memo? "That would be interesting," she says. **CIO**

Galen Gruman is a frequent contributor to CIO. You can reach him at ggruman@zangogroup.com.

Search's Dark Side

For a look at the not-so-helpful side of search, see "5 Ways Google Is Shaking the Security World," at www.csoonline.com/read/050106/google_security.html.

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A Matter of Scale

Former mid-market CIOs share what it takes to make the move to a larger organization



You are a successful mid-market CIO who is ready to apply your IT leadership talents on a larger stage. But before you start sending your résumé to the Fortune 10, you may want to ask yourself a critical question: How scalable are my skills?

As anyone who has implemented enterprise systems can tell you, if you ignore the scalability factor, your system won't last three years. Given that you probably want your next CIO role to last at least that long, it is helpful to understand what you need to think about before moving to a larger organization. To get that perspective, I spoke with CIOs who have taken this path and made a successful transition. They offer this advice.

Prepare for the size question. Before you worry about succeeding at a larger company, you should focus first on making it past the hiring committee, many of whose members may be concerned about your ability to scale. In November 2006, Todd Thompson left his role as CIO of \$1.7 billion airline JetBlue to assume the same job at Starwood Hotels & Resorts Worldwide, the \$6 billion hospitality company. As he expected, the interview team focused on his ability to succeed in a larger organization.

"My answer was that at JetBlue, where I grew a team of 70 to 200, I proved that I could scale very effectively," he says. "I also made the point that there are some complexities in an airline environment that make a \$2 billion company feel a lot bigger from an IT perspective."

CIO Jonathan Manis moved from Provena Health, an organization of six hospitals and 16 long-term care facilities, to Sutter Health, which, with 26 hospitals, is one of the nation's largest nonprofit healthcare systems. Like Thompson, he also fielded questions about scale.

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"I knew that if they didn't ask it they were thinking it, so I decided to address the issue head-on," he says. "I talked about my military experience in terms of geographical dispersion and span of control and related it to the Sutter role. They're thinking, 'How does this guy go from \$1 billion to \$7 billion?' I wanted to get it out on the table and out of the way."

The takeaway: Focus on points of relevance between your experience and the new role. Show how much more important these points are than sheer numbers.

Sharpen your influencing skills. In April 2006, Eric Goldfarb left his position as CIO of PRG-Schultz International, a \$300 million financial services firm, for the CIO role at BearingPoint, which has \$3.4 billion in annual revenue. Since BearingPoint is not the first large company Goldfarb has worked for, he has learned to observe differences in culture and management style and shift his focus accordingly.

A major part of the CIO's job in any company is to be aware of the technologies available in the market and to use them to improve efficiency or profitability. "In a smaller company, you walk in, talk to the owner, and get approval for a technology investment," says Goldfarb. "In a large company, where the magnitude of risk for every IT decision is much greater, you can no longer rely on a handshake to get project approval."

To win approval in such a setting, you may have to get support from your colleagues in sales and finance and even get a nod from a board member or two. That's easier to do when you've taken the time to build strong relationships with key stakeholders and decision-makers.

"When you sit down with your CEO, the first thing he will ask will be who you talked to about the project," says Goldfarb. "You want to have a good answer. Or, better yet, have the CMO walk in as well and echo what you say."

The takeaway: In a smaller company, your relationship with your boss is the key to gaining approval of a big IT decision; in a larger company, you rely on your circle of influence.

Shorten your horizons. "It seems almost contradictory," says Goldfarb, "but larger, public companies tend to have a shorter-term planning horizon than smaller, privately owned companies." With shareholders hanging on every earnings

report, he says, "the executive team spends more time on month-to-month, quarter-to-quarter planning" than on long-range goals. Your strategic planning efforts can no longer rely on ROI that is three

years out; you will need to build shorter-term savings into your plans.

The takeaway: Shifting your focus from the forest to the trees can be a major adjustment and one worth anticipating before you start the job.

Adapt to a new management style. In many smaller com-

panies, the original owners are still running the show, often with the siblings, cousins and friends who have been there since the early days. In a larger company, most members of the executive team gained their experience elsewhere.

"You might have a CMO who got her MBA and then worked her way up the food chain at a few different major companies," says Goldfarb.

The takeaway: If you are accustomed to working with executives who grew up inside the company, you need to learn to

"Don't expect to come in and be a miracle worker."

-Jonathan Manis, CIO, Sutter Health

function in a more formal management structure.

Upgrade your communication abilities. It is hard enough to establish clear and consistent communication in a company of 9,000 people, the size of JetBlue. When you move to a company of 145,000 people, as Thompson did when he went to Starwood, the challenge is enormous.

"At JetBlue, we were geographically centralized. I could walk around the floor and talk to people to learn what's going on," says Thompson. "Here, we are international and spread out. I have to communicate more formally and think a little harder about how to get the word out to all of those people."

Sutter Health's Manis moved from an organization that had around 12,000 employees to one that has 43,000 with hospitals that range widely in geography, size and culture. He managed 200 IT employees at Provena; at Sutter he manages 550. "The diversity of the organization is a challenge," he says. "Our hospitals are spread out through Northern California, and they range dramatically in size. When I am addressing the entire organization on physician order entry, I need to reference the small hospital up north as often as I do the progressive physicians in downtown San Francisco."

The takeaway: Understand your many constituencies and tailor your message and its delivery in order to develop effective and consistent communication with all of them.

One point all three CIOs agree on is the need to be patient. Your natural desire when walking into a new job will be to establish change and credibility right away. Manis suggests you resist that inclination.

"In a smaller company you can step in, assess the situation and take action pretty quickly," he says. "But in a larger company, you want to take your time and evaluate what you're stepping into. Don't expect to come in and be a miracle worker." **CIO**

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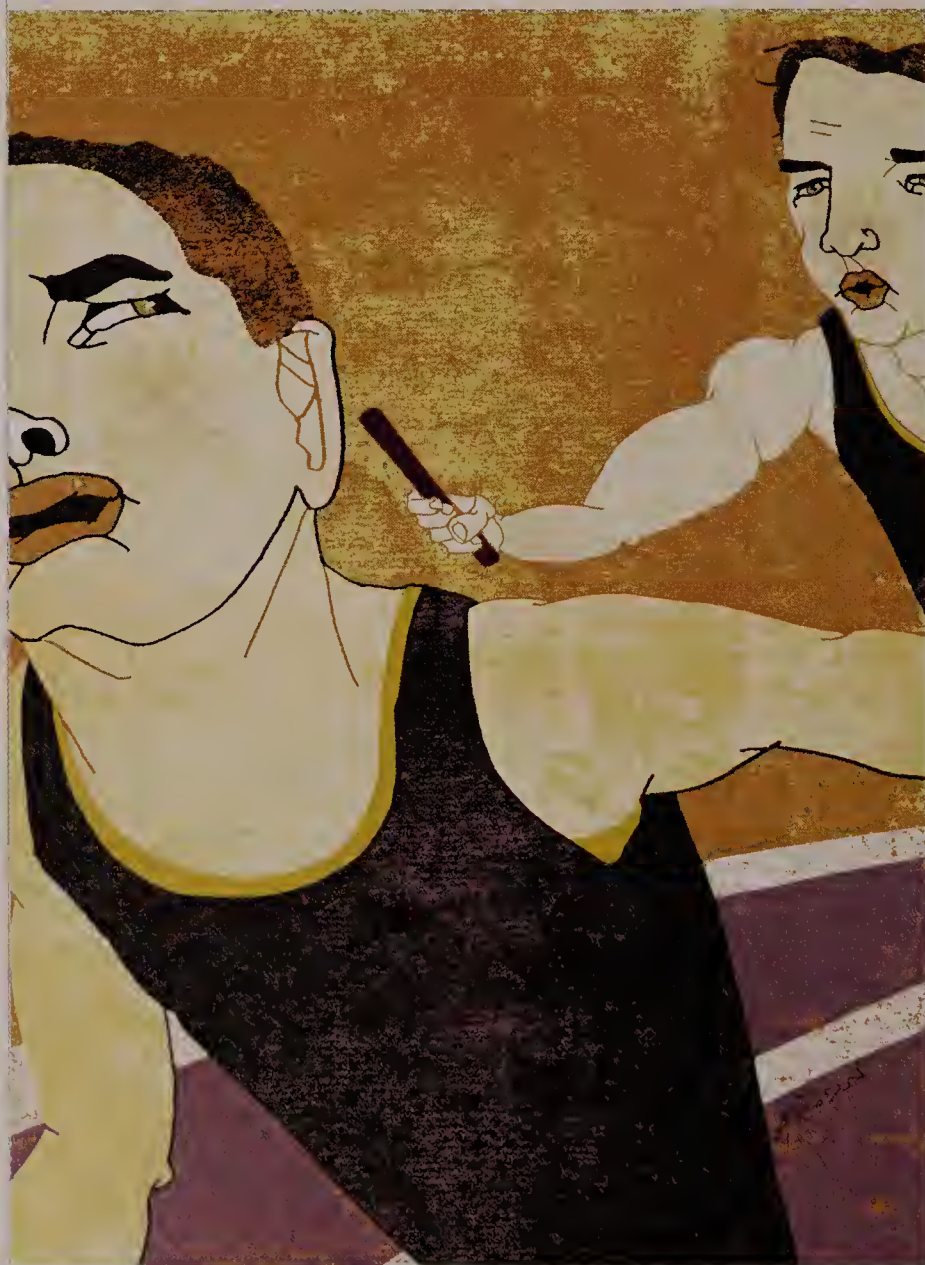
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The Race to Innovation

While it may seem that competition and collaboration are at odds, the most innovative IT shops find a way to blend the two productively



Collaborate or compete? That's a core strategic question for organizations seeking margins and market share. When are they better off energetically competing against their rivals? When are they wisest to collaborate and cooperate? That strategic question is even more important for the internal IT marketplace. CIOs have to determine what will better drive desirable results: more collaboration within their IT shops or encouraging smarter competition. The "correct" answer, of course, is "both." Good luck.

Unfortunately, most CIOs focus far less on the productive role of competition versus collaboration than on the design and deployment of productive process. Our legitimate concerns about process undermine rigorous thought and action around when getting people to compete and getting them to collaborate makes the most sense. Too much of either can kill: As Paracelsus, the 16th century Swiss alchemist keenly observed, "The dose makes the poison." What's the right dosage? What's the right mix?

These issues snapped to mind at this magazine's CIO 100 Symposium in San Diego, during a session on innovation that I participated in with Capital One CIO Gregor Bailar and others. Bailar, inspired by an internal competition run by CBS Marketwatch to encourage creative mash-ups, imported the idea to his IT shop. The first time he ran the competition, he got far fewer entries than expected.

Now it's not that Bailar doesn't encourage or support Web 2.0-oriented innovation. Capital One is as innovative a shop as you'll find. The organizational reality is that sometimes internal competitions productively tap an existing well of frustration and perceived opportunity. But if the target audience



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hasn't yet perceived the potential opportunity, they may treat such competitions as just gimmicky distractions.

This is a powerful and (relatively) innovative diagnostic. Run an internal competition around mash-ups, interfaces, tech support or some other IT-empowered business issue and see what kind of response you get. The size of the prize and quality of recognition have to make sense, but you'll be amazed at what does—and doesn't—pop up. I was.

Indeed, you'll find the conversation surrounding prize size, recognition and rewards speaks volumes about your shop's competition culture. Will a token dinner for two and an enterprise attaboy from the CIO motivate people? Or do you need cold, hard cash? Are you looking for breakthrough ideas from a brilliant programmer? Or would you rather have entries from programming pairs or trios? Do you want lots of entries? Or do you want the "right" ones?

These aren't rhetorical questions. The way you design a competition—particularly its rewards—reveals your own values as a leader. To the extent you recognize, reward and celebrate individual achievement, you may tacitly discourage collaboration. To the extent you pit teams against one another to come up with solutions, you discourage sharing and cooperation. And if competition in any form is seen as irrelevant to innovation, creativity and productivity, you're running an IT shop that's ignoring one of the greatest spurs to ingenuity known to history.

CIOs worldwide are impaled on the schizophrenic horns of a leadership dilemma. IT organizations desperately need the efficiencies and innovations that internal competition can surface. Yet they have to promote greater knowledge sharing and collaboration to encourage greater efficiencies in innovation communication and alignment. So which is the better investment: rivalry or cooperation?

Even though I've written books about collaboration, my money's on rivalry as the medium and method that deserves greater investment and ingenuity from CIOs. While competition shouldn't be a dominant driver of your internal IT culture, it needs to be more than a spice: It has to be an essential ingredient. Yes, competition for the sake of competition is dumb—but so is collaboration for the sake of collaboration. You need to begin by learning how your existing IT culture defines the contours of its collaboration versus cooperation landscape.

While the answers aren't easy, the path to finding them is. Look at the three most common "success stories" your organization tells when it's reviewing past accomplishments. Then review the three most common "abysmal failure" tales your people tell. Here's the trick: Don't look for the heroes, villains, best practices or dumbest decisions. Instead, examine the competitive versus collaborative dynamics of each project.

What role did competition and rivalry play in the successes and the failures? How did cooperation and sharing add value or induce paralysis?

You're guaranteed to discover your IT shop's comfort zones around rivalry and cooperation. Sometimes, feeling uncomfortable about competition is wonderful; other times, it signals the wrong kind of fear. Sometimes, collaborative, cooperative relationships indicate a well-run organization; then again, they can signal self-indulgent complacency. You need to know this.

At one global professional services firm, the CIO realized that office rivalry between regions had passed the point of diminishing returns. There was literally no incentive for

CIOs worldwide are impaled on the schizophrenic horns of a leadership dilemma. Which is the better investment for innovation: rivalry or cooperation?

offices to share best practices—or any meaningful information—at all. Not a single success story had anything to do with cross-office collaboration. In fact, because the offices were actually ranked against one another, collaboration was effectively discouraged. Effecting a change in incentives and culture proved easy. An outside consultancy recommended the straightforward remedy of making 20 percent of the regional CIO's bonus contingent upon demonstrable knowledge sharing and cost-savings between the units. The units were also ranked on how collaborative they were.

By contrast, another professional services firm IT shop was so collegial and collaborative that it passive-aggressively killed efforts to introduce IT innovations that would upset the existing comity. The IT people did a better job of collaborating with each other than with their internal clients. The clients came second. The result? The consultants bypassed IT and bootlegged budgeted IT innovations on their own. The CIO was ultimately asked to leave, and a non-IT partner was put in charge. A few of the surviving IT employees are unhappier, but the bulk of their internal clients are not. Internal competition energized both IT and its users.

Leadership means defining and designing the kind of marketplace that's best for your IT shop and enterprise. And it means having the courage to compete and collaborate and inspiring your people to do the same. **CIO**

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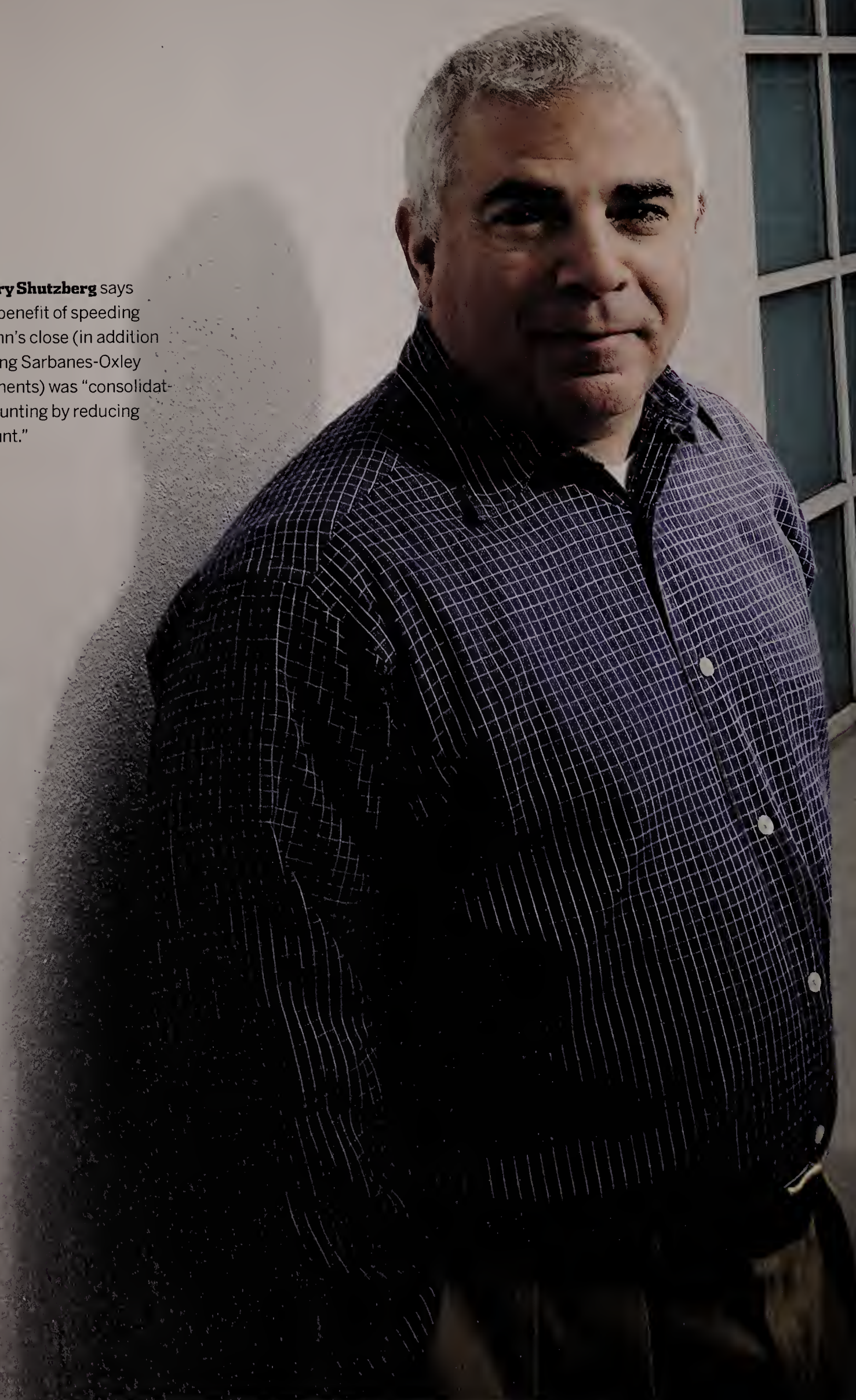
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CIO **Larry Shutzberg** says the real benefit of speeding Rock-Tenn's close (in addition to meeting Sarbanes-Oxley requirements) was "consolidating accounting by reducing headcount."



CLOSE FAST, CLOSE SMART

When it comes to closing the books, the benefits of speed are undeniable. And CIOs are uniquely positioned to help their organizations reap them. **BY GALEN GRUMAN**

AS LONG AS THEY'RE MEETING their regulatory reporting deadlines, most enterprises don't think a lot about closing their books more quickly.

Maybe they should start.

Increasingly, the speed with which an organization closes its books and reports its financial results is being looked at by practitioners, analysts and investors as a defining metric for evaluating whether the organization possesses the best possible processes and enabling technologies. And it turns out that many companies don't, even those making huge IT investments and supporting equally large IT departments.

World-class companies can close their books internally in five days, while top performers can do it in three, says Scott Holland, IT practice leader at the Hackett Group, a strategic advisory firm. But only about 10 percent of U.S. enterprises are in that class, Holland says. (For the Fortune 500's top 15 fastest closers, see "Champion Closers," Page 38.)

Ask a typical CIO how his company could improve its financial reporting and his recommendations most likely will focus on mechanics: normalizing data, collecting it and passing it on to some central repository. Some CIOs will go a little further to suggest that the data generation and gathering systems be reviewed for compliance requirements. And that's fine as far as it goes—except it doesn't

go very far. It doesn't address what most CFOs need; it doesn't help the business run more intelligently; it doesn't cement IT-business alignment. No matter how integrated a company's financial streams are, CFOs will still struggle to close the books and issue the appropriate reports. Their staffs will still spend countless hours reconciling data gathered from multiple departments and systems—all under deadlines that are shrinking even as regulators ask for more information.

At the very least, what the business needs from IT is a way to make the financial close and reporting process more efficient and accurate in order to lower costs and minimize the risk of providing incorrect information to stockholders and regulators.

But that's merely a tactical improvement. The real opportunities lie elsewhere. By redesigning the organization's financial processes and then implementing the technology infrastructure to execute them, business managers and executives can gain a near-real-time view of financial performance, enabling them to identify problems and opportunities much earlier. A second opportunity is to understand the relationships

Reader ROI

- :: How a fast close can lead to better IT-business alignment
- :: Why good integration doesn't always produce fast reporting
- :: How XBRL can help a company report faster

of all financial information so managers and executives can do analysis outside the box. Lastly, by providing accurate filings more quickly than your competitors, your company will increase investor confidence, and that will put a smile on the face of every business executive and make the CIO king for (at least) a day. (For how a faster close can lead to better business-IT alignment, see "Speeding Alignment," Page 42.)

NEEDED: THE BIG PICTURE

Noel Gorvett is well aware of how an organization can miss the opportunities offered by speeding the close.

In 2002, Gorvett, the group business systems manager at book publisher Pearson, began exploring centralizing group reporting. The idea was to replace the more than 400 general ledgers and 80 ERP systems in use throughout the global publisher's operating units in 60 countries to track \$7 billion in annual revenue. The IT group's goal was more efficient maintenance through a common technology base. But the focus on platform integration overlooked a key business need: a way to report the financial information flowing through the systems in a meaningful, consistent way at the departmental and executive levels.

"Each Pearson department was working off its own assumptions," Gorvett recalls, such as the criteria for sales forecasts and profit margins. That made it difficult to create a consolidated financial report, much less to identify variations from plan so managers could act quickly while there was still time to do so usefully. It became clear to Pearson's group CFO in summer 2003 that a different approach was needed, one that focused on fixing inefficiencies in the financial reporting process itself and standardizing processes across Pearson. That way, executives could work from the same financial assumptions, no matter what applications they used to manage their books. This in turn would enable them to quickly identify significant differences across divisions and adjust strategies if needed. And the processes would gather the information that would be needed for compliance, regulatory and stockholder filings—no more scrambling to retrieve this information at each close from buried Excel spreadsheets or by running queries against transaction systems.

So Gorvett—working as a liaison between the CFO and the CIO—led Pearson on a tack that determined standard financial

Champion Closers

The average Fortune 500 company between 2003 and 2005 took 67 days to report its annual earnings. Twenty-three companies took more than 90 days to report their results. (Reporting includes the closing process.) Here are the top 15 fastest closers.

Sears Holdings	15 days
Loews	20
News Corp.	21
Mohawk Industries	22
Mosaic	22
Ashland	23
Caterpillar	24
Liberty Global	24
Automatic Data Processing	25
Viacom	25
Southwest Airlines	32
Freescale Semiconductor	35
Qualcomm	38
Genworth Financial	39
United Technologies Corp.	39

SOURCE: Hyperion study of SEC data from the Edgar database; based on 2006 data from 451 of the 500 companies

transaction, auditing and reporting processes for the whole company—creating, for the first time, a standard chart of accounts. This provided a unified list of all accounting data tracked to ensure that everyone used the same definitions and categories and that the enterprise captured all the financial information it needed at all locations.

The next step was to set up the technical requirements for what data needed to be captured from what sources, how it would be presented to the central financial reporting tool and what processes had to be followed to generate the results. That way, no matter what technology platform a division happened to use, the data that management was receiving would be consistent, accurate and timely.

The result: Pearson was able to close its quarterly books in six days (down from about 20) and reduce its year-end reporting time from eight weeks to six weeks. And because everyone was working from the same chart of accounts, financial staffers no longer had to burn the midnight oil to translate their financial information into what the executive team needed.

THE ROI OF SPEED

The Hackett Group's studies show that "world-class companies spend 45 percent less" on their closing and reporting efforts than other companies, which on average saves \$5.5 million per \$1 billion in revenue. These savings come, in part,

from needing fewer people and systems to scrub data.

There's a compliance payoff as well: Consistent, self-auditing processes help companies more easily conform to regulatory mandates such as Sarbanes-Oxley by reducing the risk of errors, says Peter Harries, a partner at accounting consultancy PricewaterhouseCoopers.

A faster close also helps large, public companies—typically those whose stock is worth more than \$700 million—meet new and more stringent regulatory reporting deadlines from the Securities and Exchange Commission. As of Dec. 15, 2006, such "large accelerated filers" had to complete their annual 10-K reports within 60 days of the fiscal year end, down from 75. (The schedule for quarterly 10-Q reports was maintained at 40 days.) A 2006 Hyperion survey of SEC filings (covering 2003 to 2005) shows that the average Fortune 500 company takes 67 days to file its annual reports, with 76 percent taking more than 60 days. These statistics show how

World-class companies spend 45% less on their closing and reporting efforts than other companies, which on average saves \$5.5 million per \$1 billion in revenue.

close to the edge many companies live. Reducing the time it takes to close helps free up time for reporting, says Joe Kuehn, an advisory partner at accountancy KPMG.

Finally, a fast close builds investor confidence. Investors are right to make the inference, Kuehn says, that if the close is slow it means processes are broken. And if the processes are broken, he says, chances are the data is broken.

There's another hard-to-quantify but critical payoff: smarter business management.

"World-class organizations go from transaction mode to analysis mode," says Hackett Group's Holland, using financial data for analysis that highlights problems, identifies opportunities and considers potential shifts in customer behavior, marketing effectiveness and product requirements.

"A close is a step in time, and it's only meaningful if it's close enough to the present," says Terry Flood, COO and president of Logicalis Group, an IT consultancy.

"As business expands, it becomes imperative to have credible snapshots of performance. The close is the lens," says Logicalis CFO Greg Baker.

So Logicalis has established both common processes and a common technology platform. The result: a four-day close. "All our managers are tied into the metrics of our company. If we waited a month, we'd miss those key measurements," Baker says.

"When IT marries up with the CFO or CEO, we see tremendous success," says Holland.

A CURE FOR MANDATE MADNESS

For many companies, meeting complex requirements, such as evaluating the effectiveness of newly required accuracy controls, in the same amount of time—or even in less time than before—forces executives to rethink their closing and reporting processes. That was the case at Rock-Tenn, a \$2.1 billion manufacturer of paperboard products such as packaging and retail displays.

"The close had been a perfunctory process—no one really looked at it. Then Sarbox came along," recalls CIO Larry Shutzberg. Sarbanes-Oxley exposed all the touchpoints in the process where errors could creep in.

"We have 90-plus locations, with people doing accounting functions in the field. Getting everybody to do what they need to do is like herding cats," Shutzberg notes. Add to that challenge a string of acquisitions and management's attention was diverted from the increasingly

patchwork financial processes that were taking root.

So Shutzberg, working with his CFO, led an effort to identify and standardize Rock-Tenn's financial controls.

"It was a painful process," he says, overcoming people's resistance to let go of systems they had used for years. Shutzberg uses software from Movaris to determine what Sarbanes-Oxley would require of the revamped processes, and then to test the new processes against the requirements.

"The first thing you need to do is understand your current state," advises PricewaterhouseCoopers' Harries.

Shutzberg's first step was to create standard Excel checklists for all Rock-Tenn financial and accounting staff. But truly adhering to Sarbanes-Oxley's requirements "was impossible to do with spreadsheets, e-mail and PowerPoints," he notes, because it's extremely difficult to validate the accuracy and consistency of such disparate, individually maintained data. So Rock-Tenn launched a project to replace its aging ERP system with one that supports Sarbanes-Oxley processes out of the box. When it's deployed later this year, "we'll see if it's good enough," Shutzberg says.

THE BOTTOM LINE PAYOFF

The process efforts at Rock-Tenn have reduced its closing time from 15 days to 10. But "the business didn't feel disadvantaged when we were closing in 15," Shutzberg says. The real benefit for Rock-Tenn (in addition to meeting Sarbanes-Oxley requirements), he says, was "in consolidating accounting by reducing headcount."

An efficient financial process typically lowers costs by eliminating the need for reconciliation across systems and processes, thus reducing demands on staff, and by eliminating duplication of effort across organizations. Common processes and systems allow for more automation and shift responsibility to a smaller set of managers.

At Accenture, sales, general and administrative expenses have dropped 1 percent a year as a share of revenue, says Tony Coughlan, controller and chief accounting officer—that's a \$166 million drop for Accenture in 2006, given its \$16.6 billion in revenue. In essence, Accenture's accounting costs have stayed flat as the business has grown, he notes. Coughlan attributes this payoff, in part, to reworked financial processes and a consolidated technology platform: "We've cut finance headcount even as we grew, and a significant driver was our ability to leverage the infrastructure better." IT costs relative to corporate revenue have also dropped by half, says Accenture CIO Frank Modruson. "And we

As of Dec. 15, 2006, "large accelerated filers" had to complete their annual **10-K reports** within **60 days** of the fiscal year end, **down from 75**. But the average Fortune 500 company takes **67 days to file its annual reports**, with **76% taking more than 60 days**.

SOURCE: 2006 Hyperion survey of SEC filings

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_INFRASTRUCTURE LOG

_DAY 51: The time and money it takes to manage these servers—not to mention the energy we're wasting—is out of control. We're literally pouring money into them: \$50s, \$100s—they even take euros.

_Whoever came up with "add an app, add a server" forgot to "add an ATM."

_DAY 53: I've taken back control with an IBM BladeCenter® with Dual-Core Intel® Xeon® processor technology. Its IBM Director gives us a single point of control, so we can centrally manage routine tasks, and IBM PowerExecutive™ calibrates cooling and system processing to optimize power usage. Helping save time and money.

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have better technology than we did before," he notes.

MANAGING SMARTER

Accenture wasn't just looking for cost reductions. When it converted from a private partnership to a publicly held company in 2001, "we were publishing our reports 40 days after closing, and the deadline then was 45 days," recalls Coughlan. "That didn't look as good as we wanted."

A big reason reporting took so long was that Accenture's decentralized organization—designed for a partnership—didn't support the visibility that investors and regulators demanded and that senior executives could use to be more nimble. "You end up with different versions of the truth. With different systems, you get timing differences that make it hard to cross-check your financial data," says Modruson. That slowed both the close and reporting processes and risked incomplete, conflicting information that could hobble the company.

Coughlan, Modruson and management reporting chief David Rowland tackled the problem on two fronts over a three-year effort that ended in September 2004. ("We had to join at the hip," recalls Modruson.) The first front was to rework a series of sequential processes into a single one, thereby reducing touchpoints. The second was to consolidate various financial systems into a single instance of SAP's ERP system, converting 450 systems into one ERP implementation. In addition to reducing expenses, these efforts lowered the reporting time from 40 to 22 days, letting Accenture's financial staff go on vacation for Christmas 2006—a first, Coughlan notes. United Technologies Corp. (UTC), a \$48 billion diversified manufacturer, also gained a quality-of-life ROI from its financial integration efforts, notes CIO John Doucette. "People no longer work until 2 a.m. to meet reporting deadlines," Doucette says. "They go home on time."

But the critical business advantage UTC reaped from its faster close is actionable insight. "It's about getting information quickly, to be able to act on it," says Greg Hayes, UTC's VP for accounting and finance. For example, in fall 2006, he noted a drop-off in air conditioning orders just as external data showed a decline in new-home construction across the United States. Armed with current sales shifts, UTC adjusted its orders so it wouldn't get stuck with inventory, and it adjusted factory schedules so it wouldn't produce as many air conditioners. "Knowing only the general trend wouldn't have shown us the specific implications for our business," says Hayes.

To achieve that degree of agility, UTC consolidated 250 instances

Speeding Alignment

When the CIO and CFO work together, you get a better-managed company, not to mention a faster close

AS COMPANIES ACCELERATE THEIR CLOSE, improve the ubiquity of the financial process and lower their costs, "you move to a shared service center," says Peter Harries, a partner at PricewaterhouseCoopers. And that evolution depends on business and IT being closely aligned.

The benefits of alignment go beyond increasing the likelihood of identifying opportunities or dangers earlier, says Terry Flood, COO of IT integration provider Logicalis Group. "Good relations between the CIO organization and the CFO organization just cost less. You'll have infrastructures that save the company money, and you'll get focused on how to make the company money," he says.

In this partnership, though, the CIO is typically the junior partner. "For financial reporting, the buck stops with the CFO and other executive management, so they drive the show," says Steven Kursh, executive professor of finance and insurance at Northeastern University.

That doesn't mean, however, that the CIO is merely an executor.

"Having a CIO who understands the needs of finance for reporting and daily financial needs will help the CIO bring the right technology and packages to meet these needs," says Joe Kuehn, an advisory partner at accountancy KPMG. He's seen simple examples of that with his clients. For example, reports are historically created monthly, and people have grown accustomed to waiting for the next report before formulating their strategies. "No one ever asks for more frequent reports," he says, but a tuned-in CIO will notice that decisions are being held up and use automation to make reports available more frequently.

And sometimes the CIO takes a larger role. For example, at paperboard manufacturer Rock-Tenn, CIO Larry Shutzberg was heavily involved with defining the financial process. "But if I followed the traditional role of the CIO, I'm not sure I would have had the same role in the revised financial process," he says. —G.G.

of Hyperion financial reporting tools into one instance of Hyperion Financial Management (HFM) across its six subsidiaries, such as helicopter maker Sikorsky, aircraft engine maker Pratt & Whitney and air conditioning maker Carrier. By having a common reporting and analysis tool into which all subsidiaries feed consistent financial data, the company has achieved a five-day close, down from eight.

"If we had a single ERP system, I think we could close the books in one day," Hayes says. But he doesn't think it makes sense to impose the cost of conversion to a single ERP platform on six distinct subsidiaries given how fast the organization closes already.

As Pearson's and UTC's experiences show, a unified technology base can make an efficient process execute faster, but Hackett Group's Holland advises that CIOs first identify the right business processes for the ERP or other systems to execute.

In fact, that's Pearson's strategy, says Gorrivett. With a consistent financial process in place that delivers what's needed, the company is now able to focus on consolidating its ERP platforms. And while UTC doesn't expect to see a single instance of ERP across all six subsidiaries, it is moving to consolidate each unit on just one ERP system.

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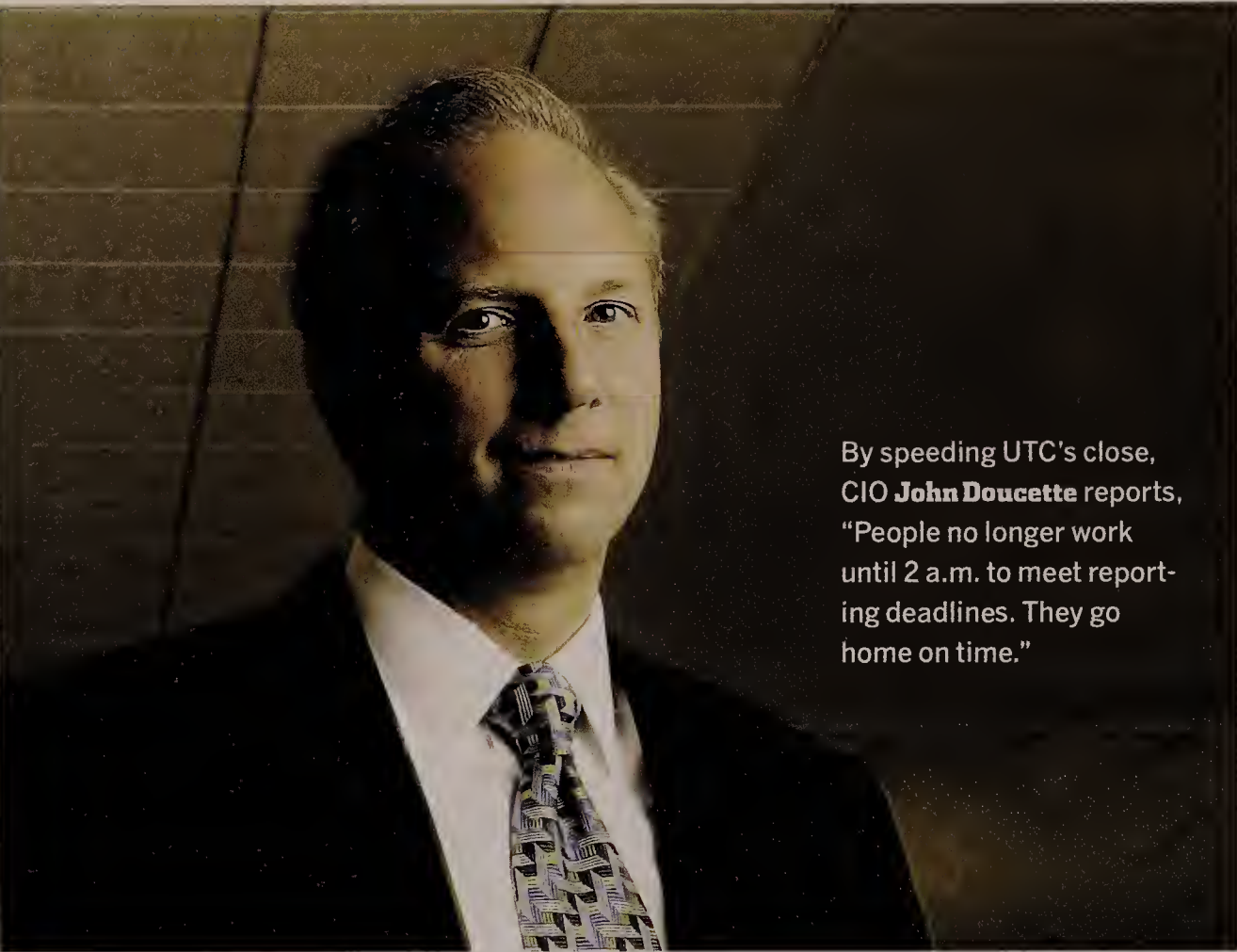
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By speeding UTC's close, CIO **John Doucette** reports, "People no longer work until 2 a.m. to meet reporting deadlines. They go home on time."

WHY REPORTING IS DIFFERENT

Even organizations that have fast closes find it hard to reduce the time it takes to report results to investors and regulators. UTC takes only five days to close its books each quarter, but it takes another 17 days to prepare the 10-Q quarterly filings for the SEC. And the annual 10-K takes a few days more.

The review process relies largely on human effort. Lots of people—executives, legal staff, board members—have to go through the financial data and projections, as well as the legal, labor, personnel and other issues that may need to be disclosed. Even if automated tools are used to gather all the financial data for these filings (rather than just the data needed to close the books), this other information requires human judgment to articulate. And not all organizations have knowledge management systems that can track and make such information easily available, says KPMG's Kuehn.

To speed the process and improve filing accuracy, UTC deployed a legal case tracking system so the status of all legal issues can be found quickly. The company is also using a two-year-old technology standard called the Extensible Business Reporting Language (XBRL) to tag its filings, and that's a horse of still another color.

A NEW BUSINESS LANGUAGE

XBRL has been touted by the SEC as a way to make information more easily accessible to investors and regulators, but there's a direct benefit to the enterprise itself. XBRL makes all information in a filing accessible through standard, tag-based formatting, as XML does for transaction data. But XBRL

also provides structure for validation rules, queries and analysis rules, notes Mike Willis, a PricewaterhouseCoopers partner. If XBRL were introduced throughout the enterprise's financial closing and reporting process, rather than simply used as a report format after the fact, users would gain new controls and insights into their data, Willis says. "They can automate analytic rules rather than auditing manually, which would reduce costs and speed the process," he adds. Plus, the use of XBRL would ensure that a company's reports reach their stockholders (and analysts) unfiltered by third-party aggregators. "It lets companies tell their own stories," says Willis.

That scenario is probably a year or two away, predicts John Stantial, UTC's director of financial reporting, since the SEC currently does not accept XBRL reports as the official filing (they can be filed in addition as part of a testing program). In the meantime, companies can

use XBRL and convert the data to the SEC's official format.

Stantial believes an XBRL-based reporting workflow would reduce the time to produce quarterly reports by 20 percent, because the tagged data would let the reporting systems automatically update the financials. Stantial says that companies like UTC typically spend one to three weeks per report on all sorts of government-required information, such as labor statistics, unemployment statistics and tax reporting. "With XBRL, I could push a button and get that in five minutes," he says.

The SEC is spending \$54 million to make its electronic Edgar reporting system XBRL-capable, and the effort to complete the standard SEC reporting taxonomies should be done by June, so Stantial speculates that XBRL-based reporting will begin by 2008. (Gartner has made similar predictions.) And he expects the Department of Labor and the IRS to follow suit.

Beyond making reporting easier, XBRL will improve internal visibility into company financials, Stantial predicts. Although UTC has a fast, five-day close with standard processes, there's still room for interpretation in what's reported. For example, an executive may want to know the operating expenses as a percentage of sales for all UTC's major locations. But "operating expenses" could be interpreted differently. Plus, it can take several days to respond to

requests, and the answers may come back in different forms, such as e-mails and Excel spreadsheets, that must then be consolidated manually. But if the various general ledgers and ERP systems in use throughout UTC's subsidiaries were XBRL-enabled, Stantial wouldn't have to wait for the financial data

It's All About the Money

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to be prepared in UTC's standard format; XBRL makes it automatically accessible.

Several commercial tools now come with XBRL capabilities, including Hyperion Financial Management, Oracle Financials and Cartesis. Willis and Stantial expect XBRL capability to be built into most commercial financial applications as they are upgraded.

"XBRL is not expensive, and it's not technical; it's all there for a layperson. And there's a very impressive support network out there," Stantial says, which is why he's frustrated that few companies have adopted it. Most view XBRL simply as a new data format that no one is required to use, so why spend time looking into it?

But there are signs of increasing interest. "Usage picked up substantially in 2006," says Jeff Naumann, an SEC technology specialist. He suspects that XBRL's release around the time of Sarbanes-Oxley doomed it to the back burner for the past two years.

GO FAST FOR THE RIGHT REASONS

A faster close is a good indicator of successful financial processes, says PricewaterhouseCoopers' Harries. But going faster for its own sake should not become an enterprise goal. "If you improve quality and cost, [speed] usually improves, but if you drive for [speed], the others may not improve," he says.

"When we think about closing, quality comes first," says Dow Chemical CIO David Kepler.

"In no way should speed ever sacrifice quality. If there's one

"In no way should speed ever sacrifice quality. *If there's one lesson learned over the last several years, it's that the integrity of financial reporting is paramount.*"

—PETER HARRIES, PRICEWATERHOUSECOOPERS

lesson learned over the last several years, it's that the integrity of financial reporting is paramount," concurs Harries.

"Garbage in, garbage out," warns KPMG's Kuehn.

When it comes to a fast close, the bottom line is to empower companies with trustworthy, current information. "Yes, we close faster today, but what we really did is to get information to people faster," says Kepler, drawing an important distinction for all CIOs and enterprises chasing the faster close. **CIO**

Galen Gruman is a California-based freelancer. To comment on this article, go to the online version at www.cio.com/031507.



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Your *hire* Power

CIOs need to take an active role in recruiting IT talent. But before you set out to solve the staffing puzzle, know the answers to these 7 critical questions. **BY STEPHANIE OVERBY**

Reader ROI

- :: Why you need a recruiting framework
- :: How to woo candidates from the business
- :: Tips for calculating compensation

It's starting to feel like 1999 all over again for Alan Boehme, the year the dotcom/digital economy hit its high-water mark and the IT job market peaked. On the one hand, that's a good thing. "IT is in vogue again," says Boehme, CIO of Juniper Networks. "It is not just for cost-cutting. It's seen as key to growth."

On the other hand, it's a nightmare. Growing on average by 12 percent year over year, the \$2 billion company's appetite for business-enabling IT systems is insatiable. And so is Boehme's need for IT staff. His hiring activity picked up about 30 percent last year, when he had 60 open positions. The market for tech talent is increasingly competitive, says Boehme, particularly where he sits in Silicon Valley.

Boehme's experience is borne out by the numbers. Nearly two-thirds of CIOs who had staffing forecasts projected an increase in headcount, according to Gartner's 2006 "IT Market Compensation Study." Of those, almost 19 percent anticipated an uptick of 10 percent or more, compared with 5.2 percent in 2004 and 17.9 percent in 2005. Overall employment in the tech sector has increased since the second quarter of 2005 and is now at its highest level in four years, nearly matching prerecession IT employment highs, according to Forrester Research. A tightening labor market may be good for technology workers, but it's a challenge for CIOs.

"The recent upturn has presented IT professionals with more options and differing expectations," says Samuel Bright, Forrester's IT staffing and careers analyst. "It forces enterprise



IT not only to compete with other enterprise IT shops but also consulting firms, outsourcers and technology vendors for the same pool of IT talent." Like it or not, enterprise IT is not as glamorous as working for Google. "As a result," Bright says, "CIOs have to take a more strategic approach when it comes to recruiting."

IT executives can no longer afford to delegate staffing to the back burner. It takes the right people with the right skills to help IT fulfill its mission. But where to begin? Right here, with answers to some of the most pressing recruitment concerns CIOs face today.

1 Most IT recruiting is done by HR and middle management. What's my role?

Penske's Stephen Pickett likens his role in IT recruiting to that of the coach in college athletics. "The CIO should be the chief sales and marketing executive for IT recruiting," says Pickett, vice president and CIO of the transportation company. "They are the ones that sell the future."

First, the CIO needs to provide the recruiting framework for the IT organization. "They should focus on more than headcount," says Bright. "The CIO has to articulate a vision." At the strategic level, IT leaders should focus on identifying key positions and building competency models for them. They also must make sure high-level recruiting strategy translates into frontline action by hiring managers. Unfortunately, CIOs tend to spend more time managing up than managing down. But smart IT leaders invest time in things like skip-level meetings with the direct reports of their direct reports and reviewing recruiting metrics (volume of incoming résumés, number of candidates being interviewed, turnover rates) to make sure their vision becomes reality.

It's the CIO's job to make other strategic staffing decisions as well. For Boehme, that means figuring out the best use of hiring bucks. "More than ever you find yourself managing dollars, not headcount," Boehme explains. "I have to consider all my options. Should I hire four people in India? One person in the U.S. or Europe? Two contractors instead?"

Perhaps the most important role the CIO has is lobbying the business for recruiting support. Alastair Behenna, CIO for U.K.-based staffing firm Harvey Nash, says his job is "going to battle for headcount, salary reviews and benefits." That's something IT leaders could stand to do more of, says David Foote, president and chief research officer for Foote Partners, a workforce management research firm based in New Canaan, Conn.

"When CIOs look ahead and think about what's going to make them successful in their jobs, deep down most of them know it's successful staffing. But they don't have the guts to fight for what they need," says Foote. "Most CIOs aren't looking at the staffing problem in a portfolio kind of way. They wouldn't let their systems deteriorate the way they've let their staffing situations decline. They're putting themselves at risk."

2 Business skills are critical today. Should I poach job candidates from the business?

According to a recent Robert Half Technology survey, 41 percent of CIOs place a greater emphasis on business fundamentals when evaluating candidates than they did five years ago. So it only makes sense that the CIO recruit IT staffers from the business.

If only it were that simple.

Consider the issue of rotation programs. Forrester recently examined IT-business rotation from three angles: rotating employees through different jobs within IT, moving businesspeople into IT and moving IT employees into the business. A survey of 281 IT leaders revealed that they were quite good at job rotation within IT. However, only 12 percent of respondents were sending IT employees to the business, and just 7 percent were bringing business workers into IT.

Rotation programs "require CIOs to make a credible case from two angles," says Forrester's Bright. They

have to prove that if IT workers go to the business, there will be a measurable improvement in IT performance; they also must show that a businessperson who spends time in IT will bring value back to the business. The latter is the harder argument to make—impossible even, in organizations where IT isn't valued, Bright says.

Nonetheless, it's good practice to create career development paths that cross back and forth between IT and the business. "Some companies have internship programs that include a rotation into the business," says Diane Berry, managing vice president of Gartner's human capital management content development group. Permanent job transfers from the business to IT can be a byproduct of successful

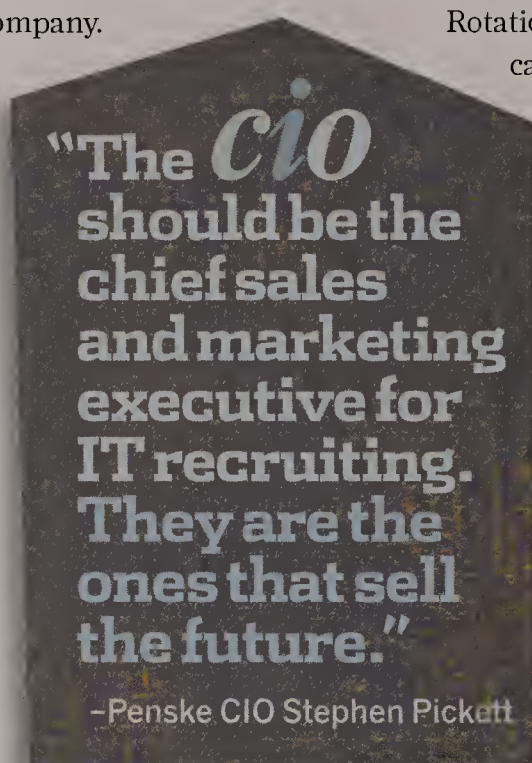
rotation programs. "A businessperson spends some time in IT, sees value in the role and wants to stay," says Bright.

Blatantly poaching employees from other departments is risky business. If you steal high performers, you're not exactly setting yourself up for a good partnership. If you do plan to recruit from the business, try hiring those who have expressed an interest in switching to an IT career.

"The argument there is that the other department within your company would lose the employee anyway, so it is preferable to lose him or her to an internal department," says Katherine Spencer Lee, executive director for Robert Half Technology. Just make sure you consult with managers from the affected departments before making a move.

Of course, not everyone working on the business side of the house will make a valuable addition to IT. "It depends on what part of the business they come from and what role they played," says Larry Bonfante, CIO of the U.S. Tennis Association. "It helps if they have some process discipline or at least an appreciation of how technology works."

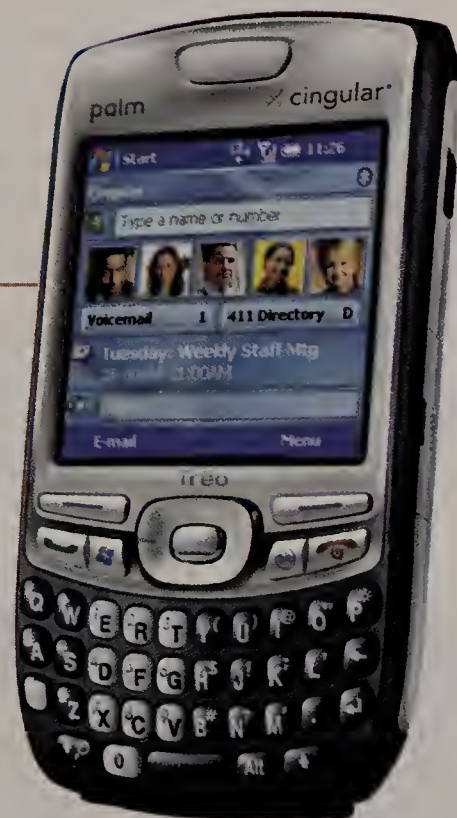
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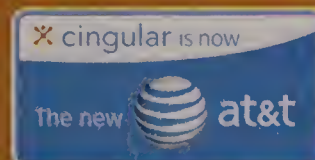
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ness—"talent alignment," Bright calls it—is the ideal state. To achieve it, though, takes time. Behenna of Harvey Nash is working toward that by "demonstrating where joint ventures result in joint benefits: joint projects, initiatives, objectives, strategy. Don't ask. Give. Once you've gained acceptance as enablers, the job is half done."

3 I'm facing a mountain of open reqs. Should I enlist the help of a third-party recruiter or beef up internal recruiting resources?

Enlist all the help you can.

Internal HR resources can be a great help, particularly when you're desperately seeking talented employees to plug sudden vacancies. But an HR generalist may not be enough, as his knowledge of IT-specific needs is likely limited. Many CIOs have seen value in hiring an HR resource specifically for the IT department or a corporate resource that is dedicated—at least part-time—to technology recruiting, hiring and retention. In smaller companies where that may not be feasible, extra communication and due diligence when working with HR are key.

"If this is a short-term need to catch up, it might make sense to bring in a third-party recruiter," says Gartner's Berry. "Many folks may want to keep the more strategic side of HR within the organization and outsource the more tactical work." Making the best use of



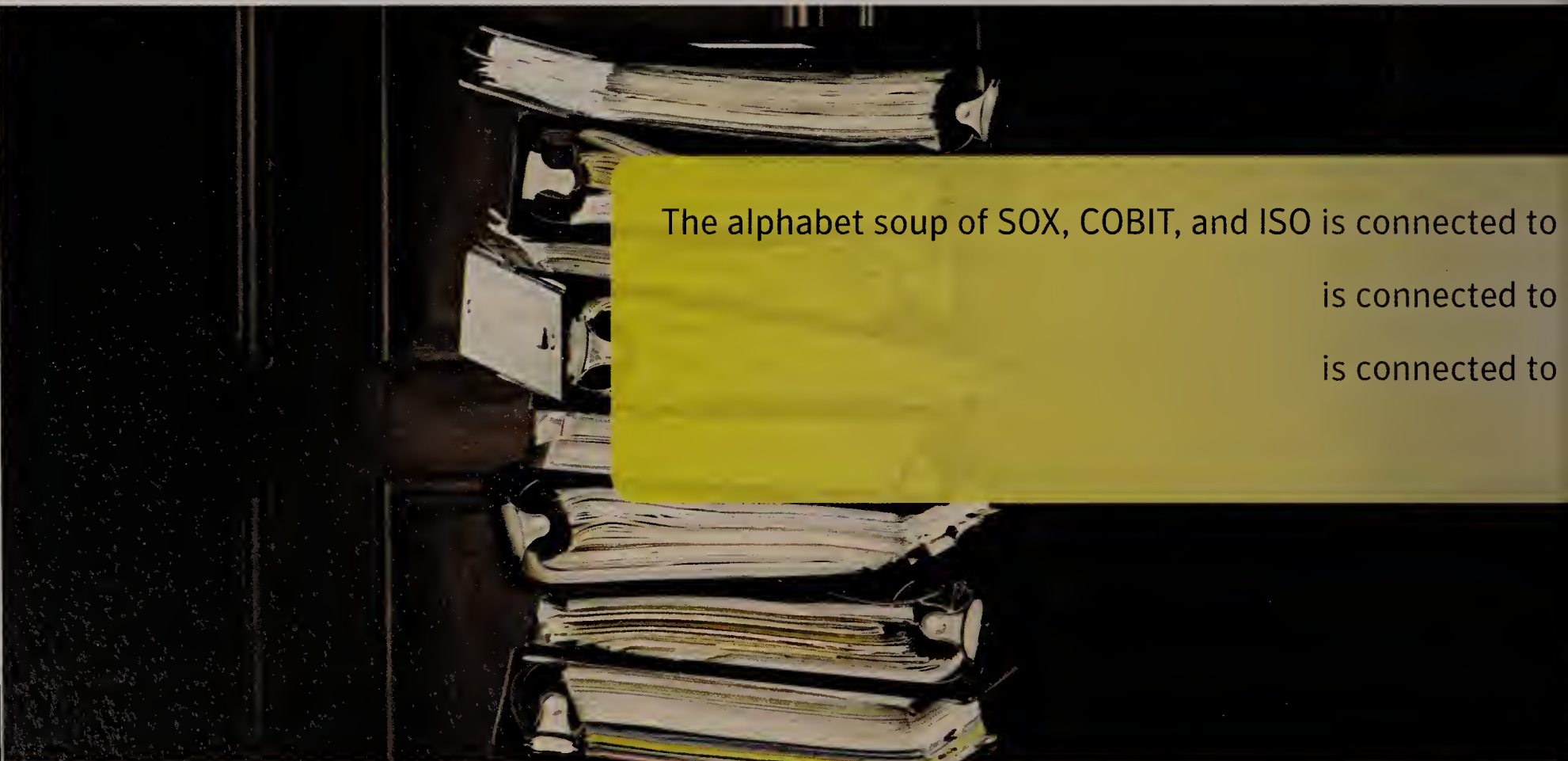
external recruiters takes some extra effort as well. "It's very important that you get a good recruiter that understands your enterprise, IT organization, culture and the jobs for which you are recruiting," says Berry. "They will be your face to candidates."

That means you and your hiring managers must work to keep third-party recruiters in the loop on staffing strategy and needs. Penske CIO Pickett, a former president of the Society for Information Managers (SIM), says a lot of CIOs in that organization use external help for filling high-level roles. "But for most positions the use of internal staff that understands internal desires works best," he says.

The holy grail is just-in-time hiring. Working closely with HR experts (not just when you need them, but long before you do) will help you develop and maintain a solid network of potential hires and help avoid a mad scramble just to fill a spot.

4 When I have an opening, should I promote from within or look outside the company?

There's no right answer. "By hiring from within, you demonstrate to employees that they can move up within your company and can shorten transition time," says Spencer Lee of Robert Half Technology. "By hiring external candidates, you bring a different perspective to the organization."

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Your tactics may depend, in part, on organizational culture. "There are some great companies that only hire at the entry level. It creates a very strong culture because they only promote from within. That creates strong loyalty," says Berry. "On the flip side, I think you lose [out on] new ideas."

The real problem today is that most CIOs don't have the option. "They haven't done a lot of staff development," says Forrester's Bright. "So they're at the mercy of the market." That costs IT more than just dollars and cents. Consider a company that has five enterprise architects but needs five more and has no one ready to move into the role. "They may not have any trouble finding someone outside and paying a 20 percent premium for them. But that means the people you have inside, who may be more talented, are now being paid less," says Foote. "You end up with all kinds of internal issues. It kills CIOs."

It's a tough balancing act. "Even if there is no 'obvious candidate' inside the company, I try and see if we can shape someone," says Behenna. "If I have nobody, then I put the requirements out. There are times when a fresh injection of talent can make a huge leap in productivity or direction."

When a position is awarded, be transparent about how the decision was made (without violating any privacy concerns). That's because a

big concern for today's IT professional is his career path. As IT staffing needs have shifted, career paths have become fuzzier. Smart CIOs will attempt to make career progression less of a mystery and work with employees on individual career development plans. IT workers are more likely to walk out because they see no opportunities for advancement than for any other reason, according to Hudson Highland Group's "2005 Retention Initiatives Report."

S How can I figure out what compensation is fair?

With all the ambiguity around job titles and responsibilities, figuring out attractive—or just plain fair—compensation can be tough. But if you can't pull it off, talented employees can (and will) follow the money elsewhere.

IT salaries are expected to rise across the board this year, between 2.8 percent and 4 percent (depending on which report you believe).

The starting salary of a project manager is expected to rise 4.1 percent in 2007 to a range of \$72,750 to \$106,250, according to Robert Half Technology's "2007 Salary Guide." Application architects will see starting salaries rise 4 percent (ranging from \$80,000 to \$112,750), while IT auditors will earn 3.1 percent more in 2007 (a range of \$69,250 to \$97,000). Those with skills in service-oriented architecture

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(SOA), business process reengineering and project management, where demand for workers outstrips supply, may see double-digit salary growth.

The standard method for figuring out how to compensate someone for a particular role is to begin by looking at salary surveys. One problem, says Gartner's Berry, is that IT organizations aren't benchmarking salaries regularly enough or are using unreliable sources of data. Another issue is that surveys are often tied to job titles. And titles may not reflect an IT hire's full responsibilities anymore. In today's IT department, those responsibilities can change quickly and often.

"A lot of the roles I want to fill are evolutionary—and increasingly, revolutionary," says Behenna, who estimates his IT hiring will increase by 30 percent from last year. "So there is no absolute reference point." In a worst case, workers may find themselves seriously undercompensated for the work they're doing, even though their salary is in line with their title. That leads to tension, resentment and, ultimately, to valuable employees being "ripe for the picking by executive recruiters," says Foote.

Foote Partners has found that most employers address this conundrum by tying base pay to the dominant skills or role and incorporating additional compensation for the ancillary work and skills that are also part of the job. In setting pay, Behenna browses job boards for job descriptions and pay rates, discusses salaries with peers and invites his direct reports to research compensation. "I have to be a little creative," he says. "It's a manual process, but it works."

Just as important as doing the compensation research is making sure employees know you're doing it. "It's PR for the IT organization that the company is keeping abreast of what the market is paying," says Gartner's Berry.

6 Wouldn't it be a better investment to focus on retention rather than recruiting?

It certainly costs plenty to recruit and train a new employee. You may ultimately end up paying as much as 100 percent of a departing employee's salary or more, just to get a replacement up and running, according to Berry. Then again, 100 percent retention is a bad idea too. Too little turnover "will limit the amount you can learn from the outside," says Tim Bosse, executive vice president for professional staffing company Hudson IT & Telecommunications. It can also lead to a clogging at the top and a lack of entry-level positions at the bottom.

IT leaders should instead strike a balance between recruiting and retention efforts. Add "roles" and "rotation" to the list and you have the four R's of staffing, says Forrester's Bright. And they're all interrelated. Yet Bright says he can count on one hand the num-

ber of IT leaders who keep continuous focus on all of them. "It's amazing the lengths people will go to avoid having to create a fully fleshed-out talent management strategy," says Bright. "They focus on one area only after it's starting to cause problems."

There will be seasonal or cyclical reasons to focus on one piece of the staffing puzzle more than another. But generally speaking, the key to success is to be proactive about managing the entire staffing spectrum. "You can't tackle any of these issues in a vacuum," says Bright.

7 Can I skip these recruiting headaches by outsourcing more of my shop's work?

Nice try. But if you think you can insulate yourself from personnel problems, decisions and strategy by outsourcing, you're sadly mistaken. You still have to roll up your sleeves and get involved. Otherwise, such arrangements are doomed to failure.

Mary Lacity, professor of information systems at the University of Missouri-St. Louis, has studied outsourcing best practices. She notes that with successful domestic outsourcing relationships, clients review the résumés of their supplier's employees before they are assigned to their delivery team. And when it comes to a successful offshore outsourcing arrangement, clients often personally interview each potential offshore-supplier team member.

If you move to a more outsourced model, you'll also inherit another set of recruiting headaches: hiring someone to manage it. "You'll have to find the rare, but valuable candidates who have experience managing vendors and outsourcers, negotiation skills, contract and SLA management experience—skills a lot of

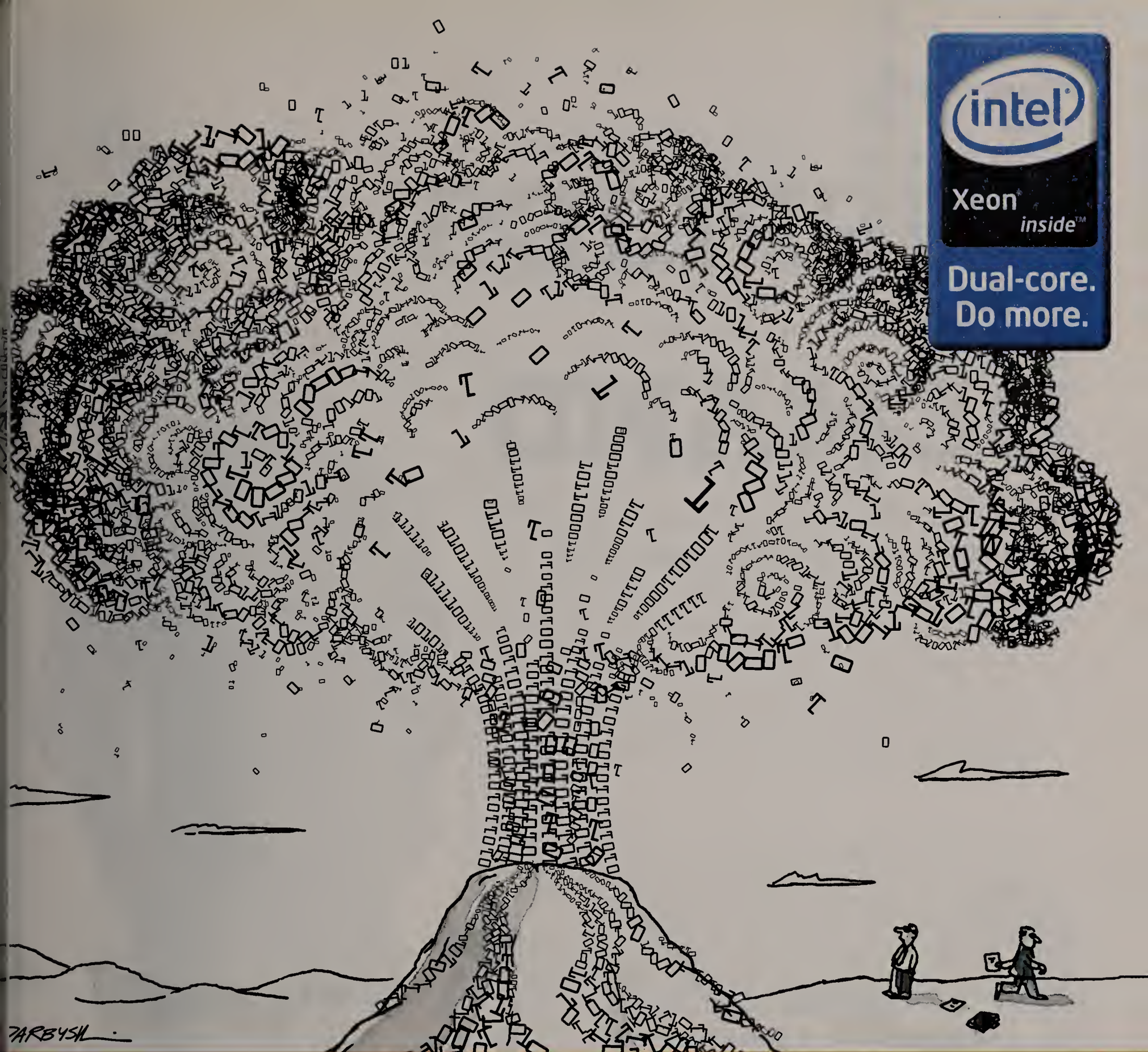
people in IT may not have. Or want," says Laurie Orlov, vice president and principal analyst for Forrester Research. And, as anyone who's done significant outsourcing knows, it's never long before any HR problems your supplier has trickle down to you. "A lot of the complaints you hear from people who have outsourced is actually disappointment in the level of quality of the outsourcers' staff," says Orlov.

An outsourcing decision might be made in part due to staffing concerns. "Some companies may outsource their legacy systems because they want to reduce the risk of being exposed should their baby boomers leave," says Gartner's Berry. But an outsourcing decision should never be made with the idea of removing all risk or responsibility for something—recruiting or otherwise. The work may move; responsibility stays. **CIO**

"When *CIOs* look ahead and think about what's going to make them successful in their jobs, deep down most of them know it's successful staffing."

—David Foote, president,
Foote Partners

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SUPPLIES IN DEMAND

As the U.S. marks the start of its fifth year in Iraq, **Lt. Gen. Robert Dail**, director of the Defense Logistics Agency, is placing IT at the core of his strategy to end the snafus and make the military supply organization more responsive to the troops

BY ALLAN HOLMES

As more troops arrive in Iraq, it is up to Lt. Gen. Robert Dail to make sure they have enough boots, fuel and guns.

Dail is director of the Defense Logistics Agency (DLA), which provides supplies and logistics services to the military. When he took the job seven months

ago, the dust had barely cleared from critiques of the agency's competence during the early days of the Iraq and Afghanistan wars, when it had failed to deliver crucial supplies such as generators, tires and food to the soldiers. The DLA also had been criticized by the Government Accountability Office for lax information security practices, including failure to assess system security risks.

The first component of a new ERP system had recently been phased in, connecting the agency's 40,000-plus suppliers to its three major inventory management centers in Philadelphia; Columbus, Ohio; and Richmond, Va., along with many key sites around the globe. The system was designed to more efficiently manage supplies, demand and supply



Director of the Defense Logistics Agency, **Lt. Gen. Robert Dail**, is pushing wireless ERP access to the front lines.



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Take some much needed planning time

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planning, order fulfillment, procurement, and financial accounting processes. Dail says it has allowed DLA to fulfill most orders more quickly and more accurately.

But to Dail, a new ERP system could only be as good as the business model it supported. The early years of the Iraq War demonstrated that the agency's traditional model of pushing supplies to the field from central locations didn't work as well as it should. Delivering the goods still took too long, and sometimes there were severe supply shortages.

So Dail is on a mission to use that ERP system to turn DLA into a demand-driven organization that pushes supplies directly to the troops on the front lines. His model is FedEx, delivering orders within days and allowing customers to track them online. Being on the front lines also means the agency has to be able to get where the action is—quickly. Therefore, this summer, Dail plans to further test and implement a wireless supply chain system that can be deployed anywhere in the world and be online within hours.

"The world requires that we buy things and deliver them when the

[troops] need them. So, information becomes very critical," Dail says. That means accurately forecasting soldiers' future demand for items such as medical supplies, spare parts, food or clothing, and being able to get those items out fast.

Dail spoke with *CIO* Washington Bureau Chief Allan Holmes about how he expects IT to be a major driver in the transformation of DLA into a customer-driven supply chain organization.

CIO: What experiences molded your view that IT is a key ingredient in forming the strategy of an organization?

Lt. Gen. Robert Dail: My assignment before coming here was as the deputy commander of the U.S. Transportation Command and before that as the command's chief operating officer. Our mission was to move America's military all over the planet. We had the planes, we had the ships, but the thing that connected it all together, the thing that allowed us to control [where to send the transportation], was information technology.

When I got here, I found an agency that had taken four years to develop an ERP solution to improve its business

Defense Logistics Agency

Headquarters: Fort Belvoir, Va.

Primary business: Distribution of military supplies

Budget: \$34.3 billion

Employees: more than 20,000

CIO: Mae De Vincentis

IT budget: \$712.3 million

IT employees: 1,500

capabilities. Before, we had a system that allowed us to buy supplies and put them in a warehouse. The focus was on order fulfillment.

But I found myself asking, Now that we have this capability that moves us from just buying [supplies] to supply chain management, how do I move the agency from an entity that manages suppliers at the wholesale level to an agency that links supply and demand where my customers are located?

We have to move from Philadelphia, Richmond and Columbus [out to] the Air Force bases, Marine Corps camps and Naval bases. We have to operate where the troops are. When we get the supply directly to the military customer, we reduce the need for warehousing and military transport. Then we will significantly reduce customer wait time and the costs to ship and store supplies, and significantly increase our customers' satisfaction.

How do you do that?

I think the first thing that you have to do is get out of Washington. I take senior leaders out to the field to show them gaps in the information system. I went down to Fort Jackson, S.C., where the army trains new recruits. We found that uniforms and other equipment that we supply to the recruits in their clothing bags were missing items. [The officers there] didn't have the capability to input that information into the system to let us know.



“How do I move the agency from an entity that manages suppliers at the wholesale level to **an agency that links supply and demand where my customers are located?**”

—Lt. Gen. Robert Dail

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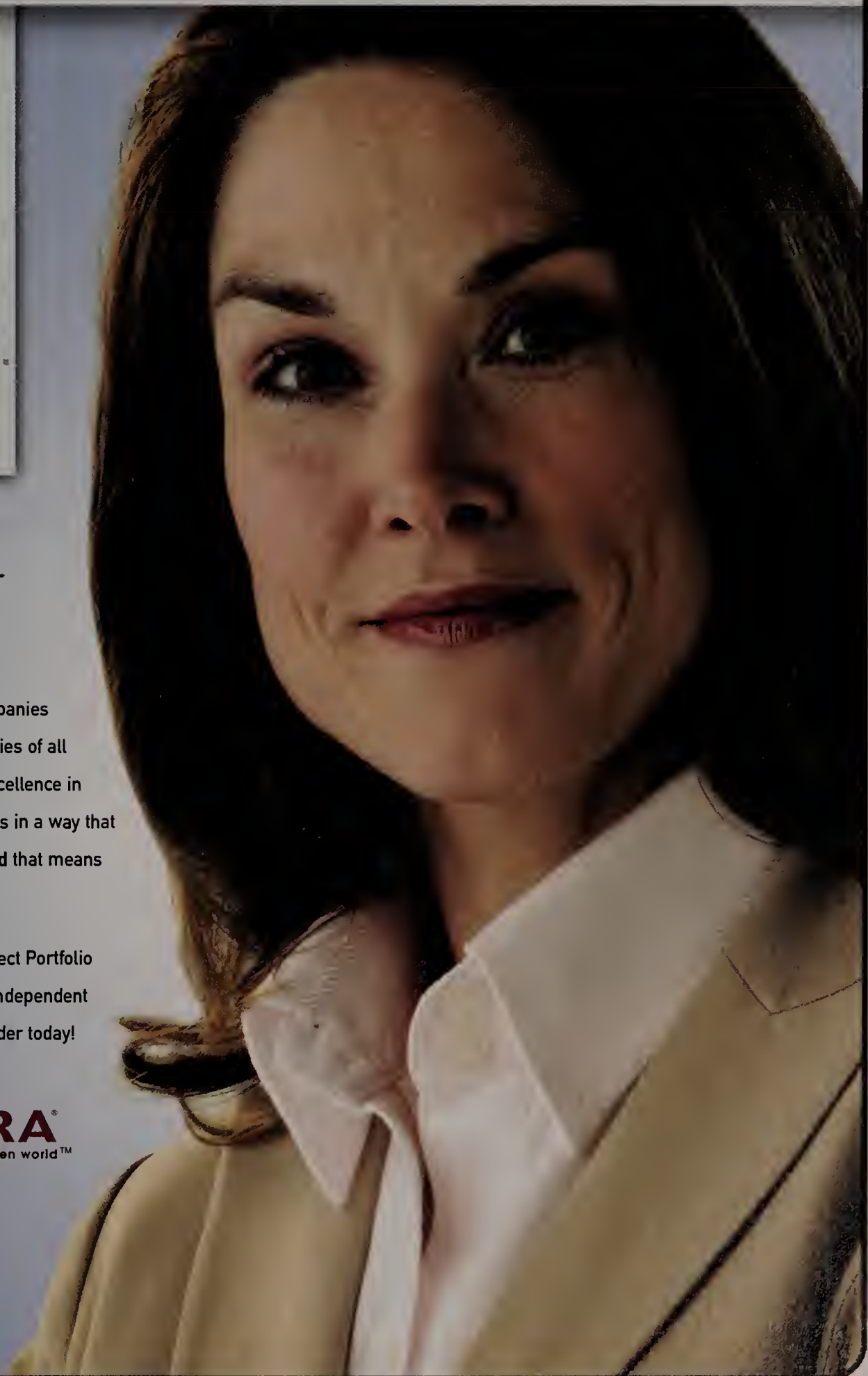
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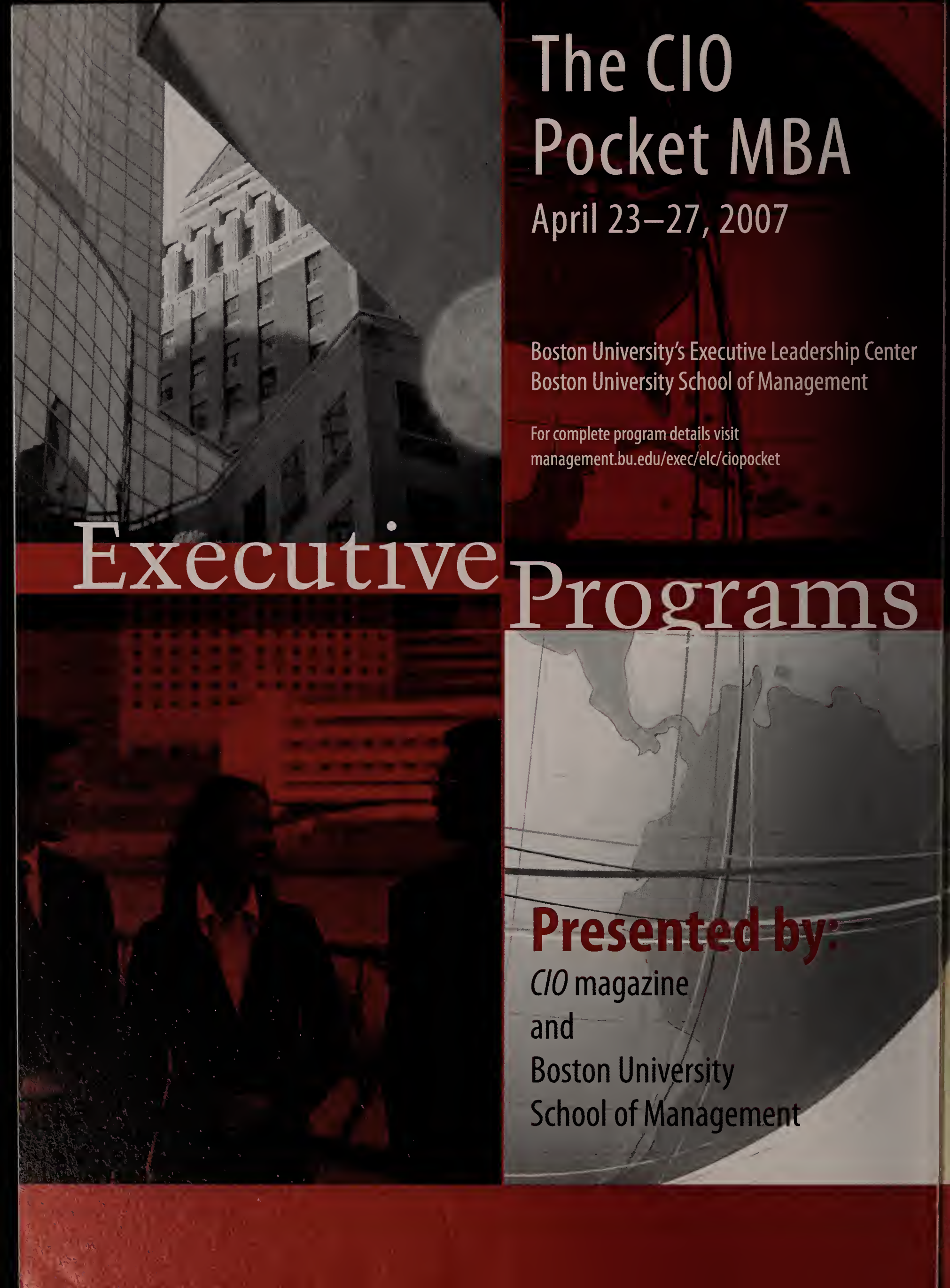
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We've [provided] that now, and in the past two or three months we've seen the fill rates for the clothing bags dramatically improve.

What kind of culture shift does your new business model require, and how do you manage that?

In the past, we measured our performance against how much we were buying, against some historically based demand. A major measure of customer satisfaction was whether we were able to immediately fulfill an order, with no regard to the timeliness of [shipping] the order.

Our new [metric] measures our ability to ship in a matter of days. Customers are interested in when they receive their shipments rather than whether we cut a shipping document.

Making this change is tremendously exhausting. As the director of DLA, I take on the responsibility of being the champion for changes and communicating them to the workforce. That involves frequent travel and one-on-one visits with our workforce around the world. The workforce wants to hear about changes from their top leadership, and they want to comprehend what it is we're trying to accomplish before we expend time and effort to incorporate these changes.

How do you communicate to the CIO and IT department the changes you want?

During the holidays I visited all of our locations in Afghanistan, Iraq, Kuwait and Qatar, where we have small teams of DLA professionals. They're operating primarily on e-mail and telephones, gathering [orders] and feeding them back to the United States. In every one of those locations, the people asked me, "Could you forward deploy our ERP solution so I can buy [directly]?"

I came back and told Mae De Vincents, our CIO, that our accuracy, our performance, our responsiveness has to improve because our workforce wants us to respond better. Nobody in the field talked to me about larger [troop size]; nobody talked to me about smaller. They talked to me about better.



“Customers are interested in when they receive their shipments rather than whether we cut a shipping document.”

—Lt. Gen. Robert Dail

Mae has to continually remind her people that their job is not about developing a capability. It is about using that capability. Over the next year or so, I will continue to focus on not just fielding ERP but convincing my workforce that this will allow them to think differently about how they're going to support [the troops]. They're not going to sit in their traditional locations. This is going to allow them to move to where our [troops] are and provide better support.

Providing wider ERP access makes it harder to keep the system secure. Few non-IT executives make improving security a priority, but you have. Why?

One thing you get when you go out to where our people are operating is a constant reminder that we've got to protect information. I monitor our performance, and so do my partners [who include the U.S. Transportation Command and the military services]. I track and improve performance through training and through systems capability and through new development. Then I take those lessons and I roll them into

our new development of information assurance and metrics.

And so it's a constant cycle of monitoring your own performance and then working that back into new development, training and capability.

Why have you ordered the IT department to focus on wireless technology?

The purpose of our IT shop is to enable our people to link demand to our supply capability. Wireless will become more critical. I'm not just talking about war-fighting operations. I'm also talking about support in natural disasters and humanitarian relief. As soon as the first planes land, we'll be plugged in.

One of my initiatives this year will be to demonstrate how we can take all the systems in the distribution center in New Cumberland, Pa., one of our largest distribution centers in America, and deploy those people and IT on a training exercise 7,000 miles away using wireless with assured security—and operate immediately.

The Defense Logistics Agency cannot do its mission in the future if it does not focus on moving information so that we can get the right item to our troops on the ground. **CIO**

What the Boss Wants

Learn more about **WHAT CEOs WANT FROM I.T.** online at www.cio.com/031507.

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Allan Holmes writes frequently about government issues. To comment on this story, go to the online version at www.cio.com/031507.

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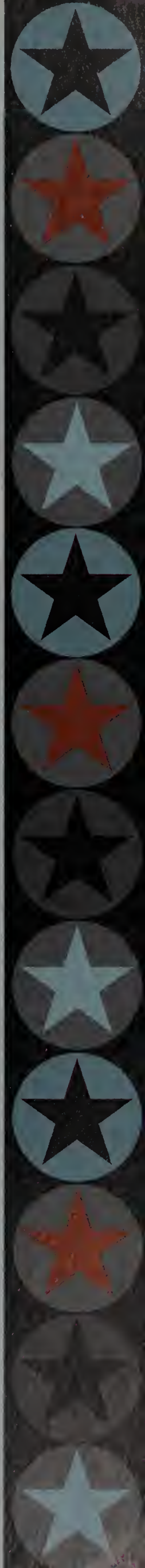
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5 Things I've Learned

THE VOICE OF EXPERIENCE * AS TOLD TO STEPHANIE GELSTON

Jakob Nielsen is a leading expert on Web usability and a principal of the Nielsen Norman Group, a business design consultancy. When it comes to Web design, he believes less is more and is no fan of complex sites or flashy graphics that come between the user and the content.

Users are different from developers.

Anyone working on a specific design project knows too much about that system and its functionality. People on the outside don't have this special knowledge and they know less about technology. Therefore, they will often have grave difficulties using something the project team thinks is "obvious." The only way around this conundrum is to do user testing and find out how the intended users behave when using the system.

B2B websites are much worse than B2C sites.

We conducted a major usability study of 170 B2B sites. I was appalled at what we found. These sites are difficult to navigate and they rarely answer customers' questions in a straightforward manner. I think the reason B2B sites are so bad is that they often don't take orders directly on the site. Thus, site managers don't know how many customers they are losing. In contrast, many B2C sites track their business value closely and they know that their sales go up immensely when they make their sites more customer-focused.

Most Web 2.0 trends are not that important for business sites.

They still need to focus on getting Web 1.0 right: helping customers find the products, describing them in ways that make sense and making transactions more seamless. Blogs are certainly proof of the basic argument of usability, which is that making things easier will increase their value.

I definitely want to get my hands on Apple's new phone.

But I would be even more interested in getting a Japanese i-mode phone. I-mode has a lot of specialized services designed for mobile, and that's what we need for the future. We also need a better screen and a gesture-based UI, which Apple is supplying. But without thousands of vertical mobile services, the iPhone will not be much more than a good-looking brick.

My pet peeve?

Cable TV boxes and all the other miserable user interfaces we have to suffer in order to operate a home theater. Try to count the number of remotes and buttons you're given to support the simple task of watching a movie. I tried: I have 239 buttons on the remotes for my main TV and its associated boxes. We need a user interface standard for consumer electronic devices.

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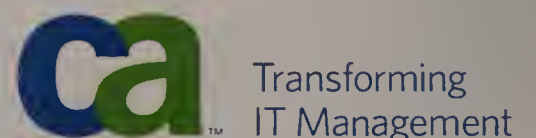




Why can she see everyone's salary, but can't confirm her vendor's payment?

Keep information secure with Identity and Access Management (IAM) solutions from CA. Hold on. Employees with access to information they should never see? And no access to the information they need to do their job? When you're adding employees and changing their responsibilities, it's bound to happen. Unless you have Identity and Access Management solutions from CA. Our industry-leading IAM gives you enterprise-wide security and control.

It's what's made CA the IDC worldwide market leader in IAM six years running, since 1999.* How'd we do that? Well, we're looking at IT from a whole new perspective. It's unified and simplified, it's security without question. And it's all at ca.com/iam.



* IDC, Worldwide Hardware Authentication and Identity and Access Management 2005 Vendor Shares, Doc #203296, Sep 2006.
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